a W. R. C. Smith publication

FIFTY CENTS

# Textile Industries

Formerly "COTTON"

NOVEMBER, 1957

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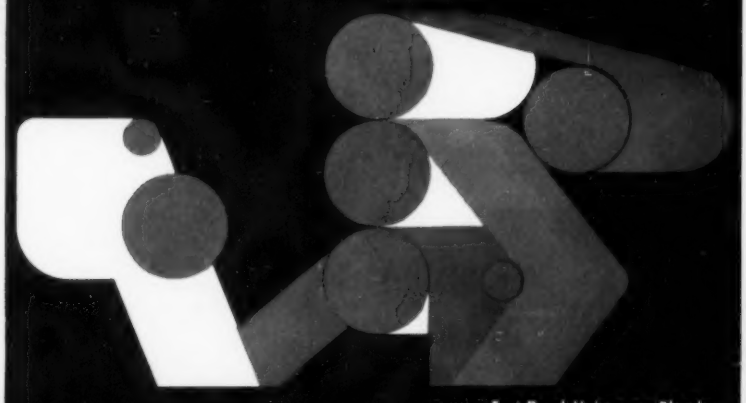
CIBA



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Like all better fabrics—popular multifiber blends, such as combinations of cotton or wool with polyester fibers, call for level shades of top color fastness. MICROFIX pigment-padding dyes give excellent unions on blends and level shades in pale and medium depths on single-fiber goods. Fastness to light, washing, crocking and dry cleaning is especially good. They are applied in conjunction with the resin finishes, MICROFIX BINDERS I, II and III, in a one-bath padding procedure followed by drying and curing.

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4

Coming in Mid-November: TI's Annual Product Parade & Buyer's Guide

AT CONE MILLS

# DIEHL transmitters improve product quality

Three hundred Draper looms powered by the latest type DIEHL Power Transmitters were recently installed as part of an important new modernization program at Cone Mills Corporation's Minneola Plant, Gibsonville, N. C., with most satisfactory results in the improvement of loom performance and product quality.

DIEHL Power Transmitters were developed especially for Draper looms, and feature a fast, positive clutch-brake mechanism combined with an inverted type motor which provides high inertia without need for a separate flywheel. This design produces a constant steady pull for more efficient weaving and better quality greige goods, in the opinion of a plant official. "Increased efficiency of looms will be joined by lower operating costs because of the combination of Draper X2 looms and DIEHL Transmitters," he said. The looms now run at 186 picks per minute.

Cone Mills plant officials are favorably impressed with the positive action of the clutch-brake mechanism, the pinion driving shaft construction which eliminates the thrust bearing on the loom, the speed and ease of removal and replacement of the transmitter for inspection and servicing, the totally enclosed housing design which protects against weave room lint and fly, and the negligible maintenance and down-time costs.

DIEHL Power Transmitters can increase production and efficiency—at lower operating costs and less down-time—in your mill. Specify them for your looms.

Diehl

**DIEHL MANUFACTURING COMPANY**
Electrical Division of
THE SINGER MANUFACTURING COMPANY
Finderne Plant, SOMERVILLE, N. J.

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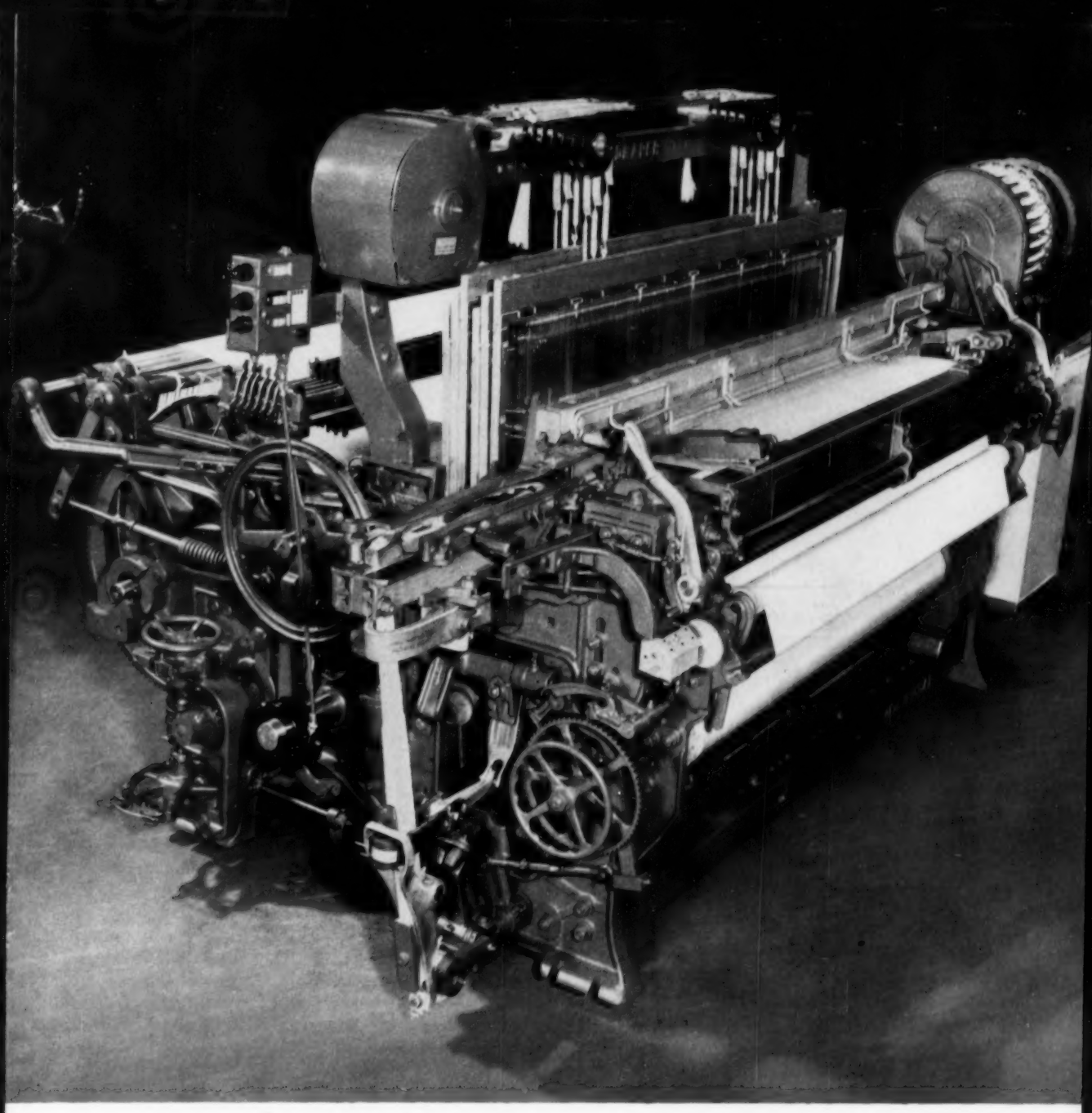

# This loom gives you all the competitive advantages

Long range flexibility, practical and economical operation, higher production, increased efficiency and a new low in maintenance cost are major benefits offered by the new Draper X-2.

The changing fashions in cotton and synthetics create a need for a loom which can be converted on short notice to weave a wide variety of fabrics.

The X-2 with its ability to weave cottons or synthetics equally well, answers this conversion problem.

The combined advantages of the Draper X-2 mean . . . higher mill profits.

**DRAPER CORPORATION**

Hopedale, Mass. *Atlanta, Ga.* *Greensboro, N. C.* *Spartanburg, S. C.*

# Heard the latest report on Becco Service?

Eight times around the world Becco Engineers travelled from plant and laboratory during the past year providing free technical service to Becco customers. Laboratory and pilot plant work have been done at Becco's plant in Buffalo for 164 additional mill customers. Becco has also given free consulting service to many other mills.

For more than 30 years Becco research has been applied to expanding the usefulness of peroxygen chemicals to American industry.

Becco pioneered in the application of hydrogen peroxide to the textile industry...developed and perfected the Becco type J-box, now dominant in the industry, with 70% more installations than any other.

Among other Becco developments are the Wet J-Box, Non-silicate bleaching, Flash bleaching, 15-minute bleaching and Single-Stage bleaching, each with its specific area of application to mill or bleachery needs. For information on any of these Becco developments, consult trained Becco field engineers or write and we shall arrange for a representative to call at your plant.

**BECCO CHEMICAL DIVISION**

Food Machinery and Chemical Corporation
Station B, Buffalo 7, New York

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NBP BPA

# Textile Industries

Formerly "COTTON"

Vol. 121, No. 11
November, 1957

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# TIME SAVER for busy readers

*Here is a summary of the major articles in this issue*
*Use it to organize your reading time most effectively*

## Maintenance for Wet Processing Plants 95

■ New finishes, new fibers requiring new dyeing techniques, and new dyeing techniques for old fibers are some of the developments of recent years which have led to more complex machinery and higher speeds in the wet processing of textile fabrics.

Continuous bleaching, 100-yd-per-minute-plus speeds in mercerizing, high-speed continuous dyeing, and high speeds in ageing, open soaping, and finishing are some of the developments in machinery and equipment that have become accepted in the last few years.

These high operating speeds have placed increased emphasis on the machine, and its proper maintenance has become a must if maximum departmental efficiency is to be achieved, particularly in round-the-clock operations.

This month TEXTILE INDUSTRIES presents a special section on maintenance for wet processing plants. Included is an article which takes a look at the preventive maintenance and modernization programs at one of the South's largest and most efficient bleacheries, a discussion by a wet processing plant manager of the department heads' responsibilities, and details of two specific maintenance problems—wet processing instruments and calender rolls.

## Easy Way to Figure Spinners' Pay 111

■ There are several ways in which mills calculate spinners' wages — the "point two" (.2) method, based on 8-hr shifts and a 40-hr week; and the "sides/hours" method are two in common use.

Whether the data on sides, hours, and hanks are kept by the spinning overseer or by a clerk under his supervision, errors are bound to creep in whenever considerable computation is required.

In this article, a mill superintendent outlines a method for computing spinners' wages by the use of constants; the method is applicable for any combination of shift hours and weekly hours.

## Device Cuts Card Waste 80% 122

■ A replacement for the licker-in cover of the cotton card has been shown in mill tests to give reductions of up to 80 per cent in card waste. Called the "Turbaire," the device consists of a series of baffles which break up the boundary layer of air which follows the cylinder and control it to give more efficient cleaning.

These tests, made in a North Carolina mill, show that the proportions of trash and of lint in the fly waste are reversed — waste from Turbaire-equipped cards contains more motes, leaf, and other foreign matter. The tests were made with 1 1/16-inch Middling, Memphis Territory cotton; experience indicates that the Turbaire is also well adapted to extra long staple, roller gin varieties, such as Karnak, Sak, Pima, and Supima.

## Improve Drawing Sliver Uniformity 129

■ Reduction in the variation of linear density in sliver, roving, and yarn, caused by roller drafting, is a problem which spinners of cotton yarns have been trying to solve for a long time. This study, from the Southern Regional Research Laboratory, deals with the effect on the uniformity of drawing sliver and roving and on yarn properties of doubling, and tension draft in the middle drafting zone, coupled with proportionment of draft between drafting zones, and to a limited extent roll settings and roll weights at the drawing processes.

The conclusions reached:

1. If slivers fed and total draft are increased, within-yard variation increases, yard-to-yard variation decreases.
2. Sliver uniformity is improved if middle drafting zone rolls are set closer together than customary.
3. For a total draft of 6.00, rear zone drafts of 1.56 to 2.00 give the most uniform sliver.
4. Heavy roll weights improve sliver uniformity.

## Warp Sizing 136

■ In the nineteenth article of this series, Dr. Seydel concludes his discussion of the slasher room and its equipment, which began in the June issue. This installment covers slasher drag rolls, drives, press rolls, warp lubricators, static eliminators, and beam storage racks. Discussion of slasher controls starts next month.

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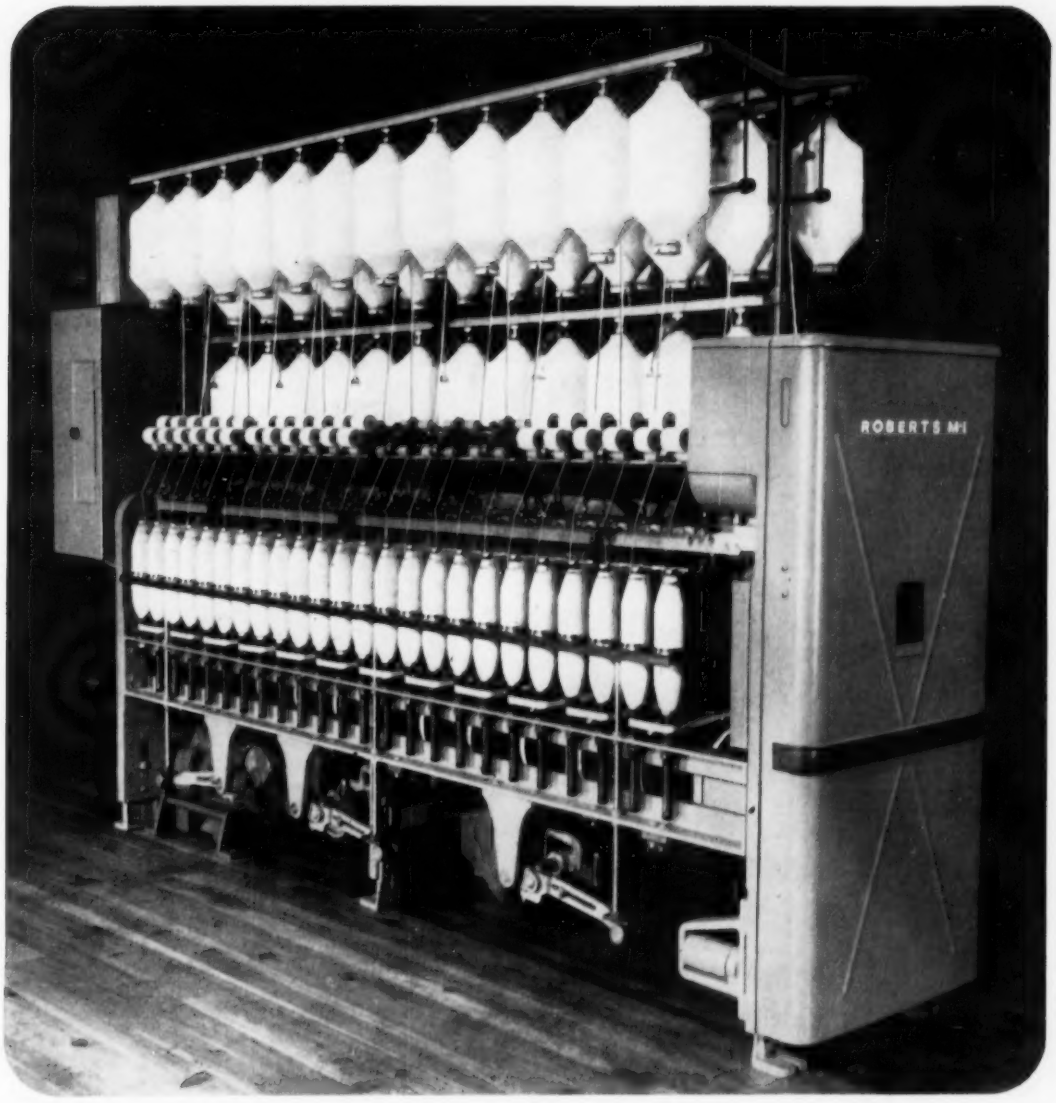



# ROBERTS SPINNING

## ALL NEW—ALL BALL BEARING ROBERTS M-1 SPINNING FRAME

### MODERN IN DESIGN

Into the rugged simplicity of the Roberts M-1 chassis has been built all the ball bearing features needed to provide the smooth operation and productivity for today's and tomorrow's production goals. Standard features include:

- BALL BEARING TOP ROLL SUSPENSION
- BALLOON CONTROL ARRANGEMENT
- BUILT-IN UnitVac SUCTION CLEANING
- EXTRA CAPACITY SPINDLES
- FULL BALL BEARING HEAD
- UMBRELLA CREEL
- 45 DEGREE ROLL STANDS
- STEEL BASE RAILS, ROLL BEAMS, RING RAILS
- ADJUSTABLE DRAFT CONSTANT, 500 TO 3000
- TURNKEY ERECTION AND STARTUP

### PROVEN IN PERFORMANCE

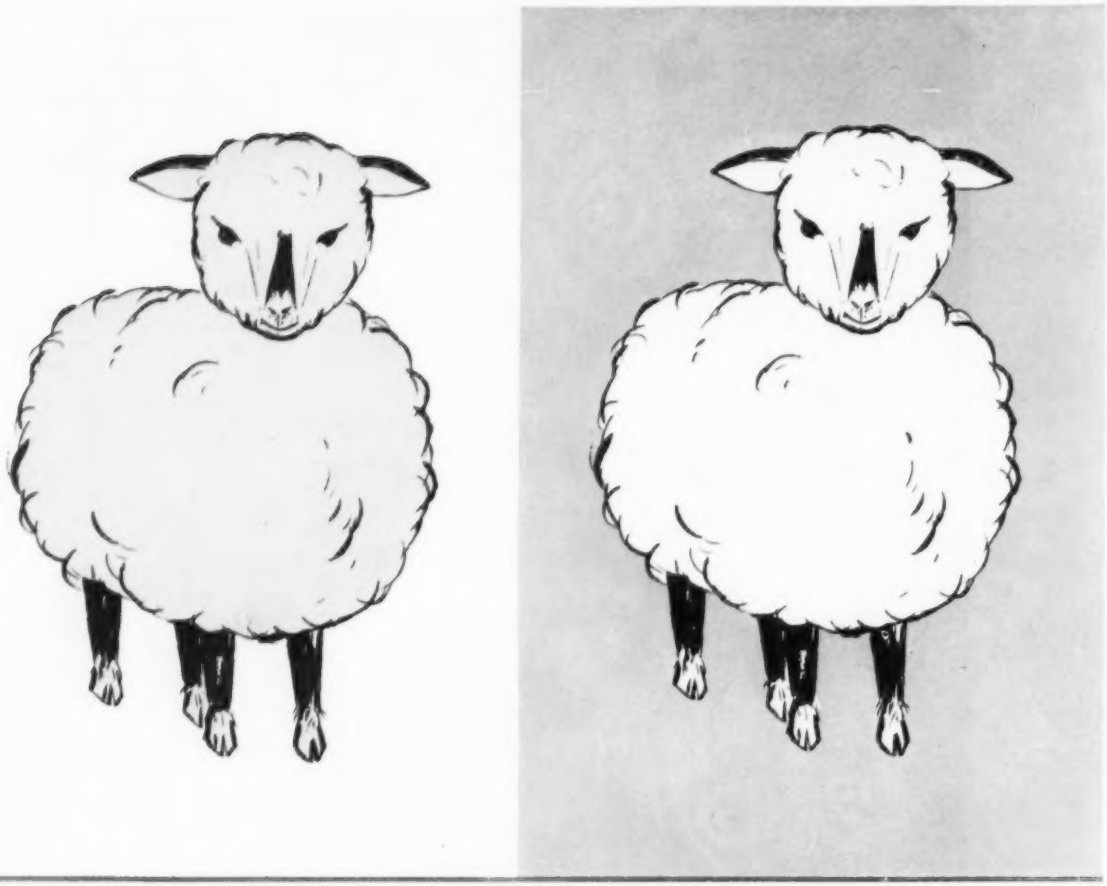
New Roberts Spinning has been running in the mill since February 1956 and has proven itself not only most economical in initial cost but low in maintenance. One large user with more than 150 frames in continuous production reports that the new Roberts Spinning runs with higher front roll speeds, better yarn quality and substantially lower ends down than the several thousand frames of other makes in operation in their mills.

**ROBERTS COMPANY**

SANFORD, NORTH CAROLINA



*For further information use Handy Return Card, Page 209*



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- A Neutral Solution
- Produces a More Open Stock
- A Clear Liquid
- High Concentration
- No other chemical or salt needed
- Can Be Fed Continuously

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But more than that, Cerfak 1422 does the job *alone!* No soda ash or neutral salts needed. Only one product to handle and it can be continuously fed. A new way to lower processing and handling costs while turning out a finer product is worth looking into, isn't it? Give your Houghton Man a call or write to E. F. Houghton & Co., 303 West Lehigh Ave., Phila. 33, Penna.

CERFAK 1422

. . . a product of

E. F. HOUGHTON & CO.

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*Ready to give you on-the-job service . . .*

# 30 YEARS with CHICOPEE

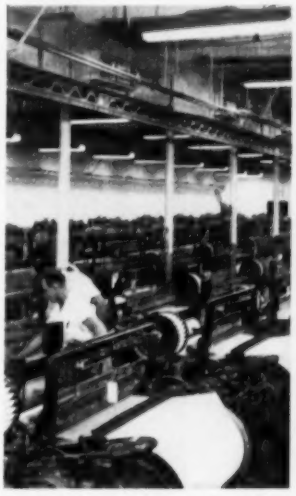
Widely known for its fine textile products . . . Chicopee Manufacturing Corporation appreciates that fine products require the best manufacturing equipment and air conditioning systems.

As Chicopee has grown, progressed and modernized, it has relied predominantly on Amco to satisfy each of its air conditioning needs with the system best suited for each particular process.

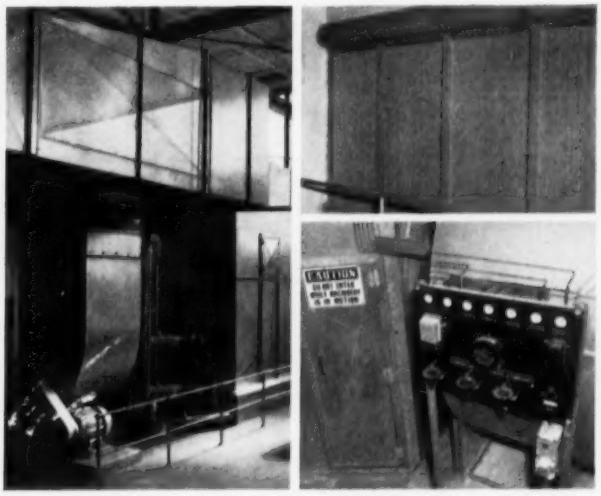
**1927**

In 1927, Chicopee humidified its Gainesville Cotton Mills with Amco Duplex Humidifiers — high-duty, spray type humidifier with motor-driven fans.

**1957**



In 1957, *30 years later*, an Amco Dry Duct system was installed in a weave room addition at Walhalla, S.C.



As recently as 1955, Chicopee installed Amco Central Station systems in its Bensenville, Illinois and Milltown, New Jersey plants, where the famous Masslinn Non-Woven Fabrics are produced.

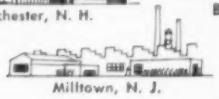
**Amco systems installed in Chicopee plants from 1927 to 1957**

Chicopee Falls, Mass.

Bensenville, Ill.

Walhalla, S. C.

Manchester, N. H.



Milltown, N. J.

Gainesville, Ga.

**Straight Humidification**
Bensenville, Ill.; Chicopee Falls, Mass.; Gainesville, Ga.; Manchester, N. H.; Milltown, N. J.

**Evaporative Cooling**
Chicopee Falls, Mass.; Manchester, N.H.; Walhalla, S. C.

**Dry Duct**
Walhalla, S. C.

**Central Station with Air Washers**
Bensenville, Ill.; Milltown, N. J.

Whether your need is for one room or an entire mill, Amco offers air conditioning to meet your requirements. Amco designs and installs all types of systems — humidification; humidification in combination with cooling, as in the ductless evaporative cooling system; unit dry-duct systems; central station systems, with or without refrigeration.

Amco engineers will be glad to advise you on any air conditioning problem — without obligation.

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140 illustrations

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**Logan Conveyors**


# Shorts and Remnants

By J. C. C.

► It's just possible that we were too early last month with the warning to watch out for goblins, spooks, skeletons, witches on broomsticks, and

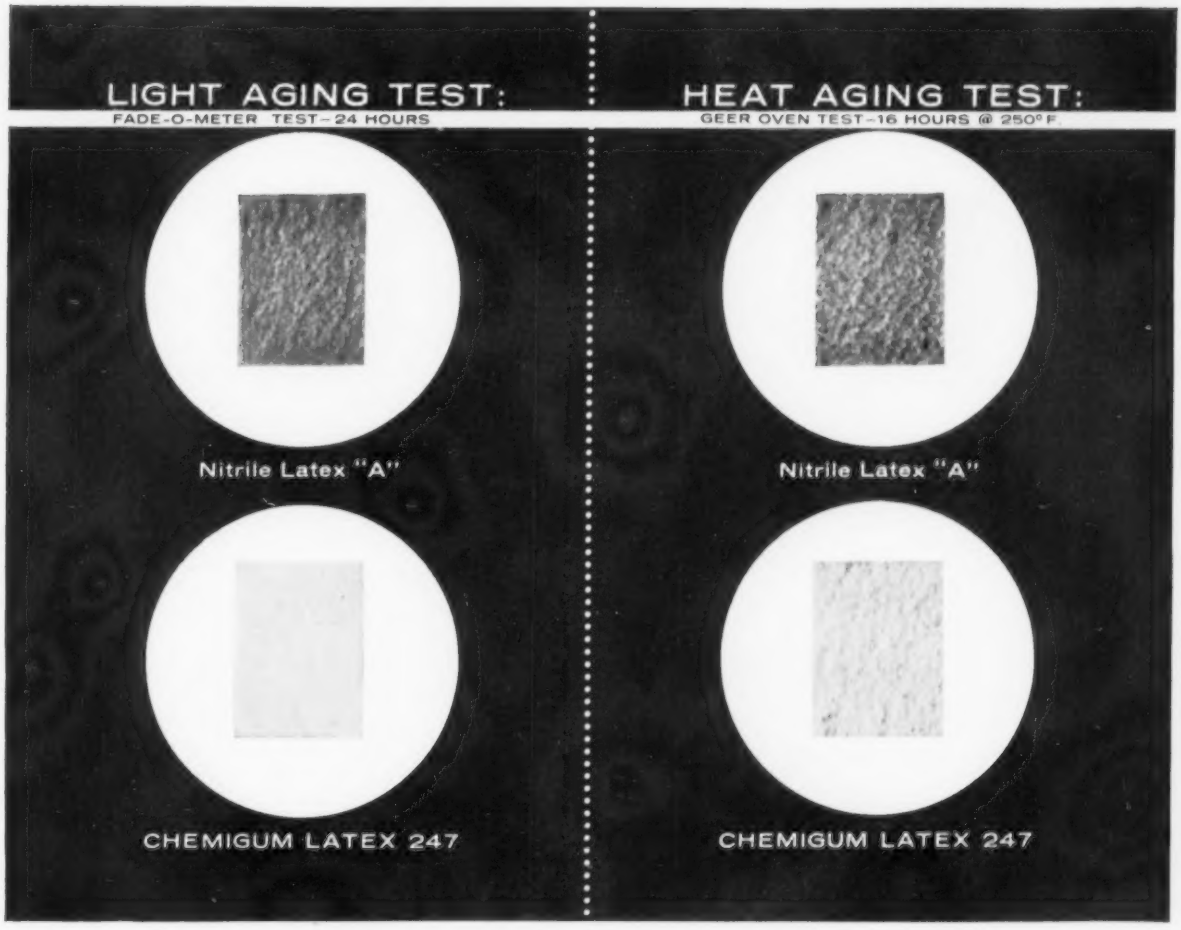
Hallowe'en in general. In that event, ole S&R repeats the warning here and wishes you a Merry Christmas, Happy New Year, bountiful Thanksgiving, safe trip to the AATCC convention in Boston, and general welfare to you all and the whole State of the Union. Now where can you get so much for so little?

Did we hear someone say "What became of Hallowe'en?" before we got so long winded. Well, as a matter of fact, we figure that this well-known institution has gone sissy—just a bunch of kids in fancy suits from the store going around "trick or treat," and every now and then smearing just a little soap on some windows or pinning down a car horn. What became of that gang that used to raise Holy H - - - with sticks on board fences, stealing wagons, letting live stock out, tying tin cans on dogs, putting ticktacktoes on windows, turning over privies? In fact, what became of outdoor toilets? Those were the days.

We know what became of one of the gang? So if any of you are crazy enough to stick around and read a bunch of stuff written by a guy so far behind the times that he doesn't even favor indoor plumbing, at least you can't say that we didn't warn you.

► We do have a pretty good issue for you this time, as you may have noted on Page 4. Boy, we really tell our readers about what we got—first on the front cover, then on the contents page (page 3), on the new "Time Saver" page (page 4), and then in S&R. Pretty soon we'll be taking so much space telling you about what

*(Continued on page 12)*




# This you've never seen before!

Take a close look at the comparisons pictured above. They illustrate clearly the stable light color of new CHEMIGUM LATEX 247. Here is sustained lightness in color never before achieved in a nitrile latex.

CHEMIGUM LATEX 247 is a medium acrylonitrile content latex of medium particle size. This new latex exhibits substantially superior resistance to color change from heat and light aging. This in turn makes CHEMIGUM LATEX 247 an outstanding candidate for all textile applications where sustained light color is important.

Excellent binding action, permanence, improved body and drape plus resistance to wear, wrinkling, raveling, tearing, snagging and sliding are some of the other interesting properties imparted to textiles by CHEMIGUM LATEX 247. For details plus the latest *Tech Book Bulletins* on promising CHEMIGUM LATEX 247 and other CHEMIGUM Latices for sizes, saturants, finishes and adhesives, just write to: Goodyear, Chemical Division, Akron 16, Ohio.

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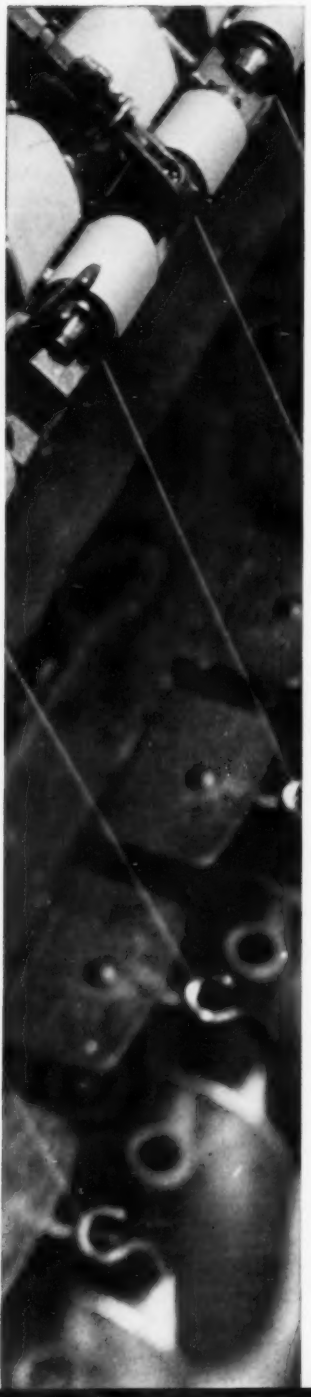
High Polymer Resins, Rubbers, Latices and Related Chemicals for the Process Industries

# Why new Dayco AP 664 Aprons improve yarn uniformity

## . . . give trouble-free drafting



Smoother operation is the reason new Dayco AP 664 Aprons draft more uniform yarn, either natural or synthetic. Newly developed, highly flexible compounds eliminate drag around the nose bar, even on the latest super-draft systems.

Semi-gloss pink inner surface gives far lower coefficient of friction. This reduces chatter — indication of jerky, uneven motion around the nose bar. Non-stretch, pliable cord body assures maintenance of uniform apron tension for surer drafting control.

All through the long life of the new Dayco Apron, the compounds in the light blue drafting surface maintain just the right coefficient of friction for improved fiber alignment. Special ingredients prevent lint from coating the surface, therefore the drafting surface always remains the same.

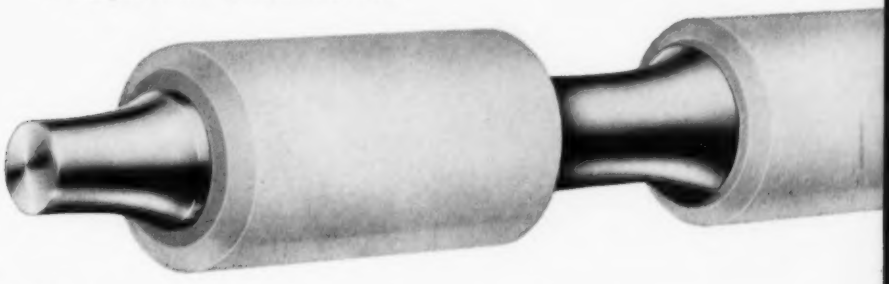
Compounded of materials which stubbornly resist chemicals or oils, Daycos instantly resume quality drafting after shutdowns. They are not affected by heat or humidity, nor will they take a permanent set. Flipped and broken aprons are a thing of the past. Dayco Aprons are available for both single and double apron systems.

Your Dayco Representative will be in soon to give you full information on how new Dayco AP 664 Aprons will improve the quality of every yarn. Or write The Dayton Rubber Company, Textile Division, 401 S. C. National Bank Bldg., Greenville, S. C.

**For even greater drafting control—**

**New Lap-resistant Dayco EW 661 Cots offer these advantages:**

- Stay dry and solid despite heat and humidity
- Dissipate static • Resist all known oils



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with Clipper

HOOKS and LACERS

You can lace belts up to 12 inches wide all in one operation with Clipper Belt Hooks and Lacers. Until the Clipper hooks shown above were inserted into the jaws of the lacer, they were protected and held in place by a reinforced card that is easily stripped away once the hooks are in the lacer. The lacer jaws, exerting up to 45,000 lbs. of pressure, imbed the hooks firmly and uniformly across the width of the belt. And in the belt, each hook is separate from the others to give flexibility not possible with other methods of belt lacing. For unmatched speed, strength and flexibility, depend on the proved Clipper machine-lacing method.

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Clipper BELT LACER COMPANY

**980 Front Ave., N. W. Grand Rapids 2, Michigan**


## Shorts and Remnants

*(Continued from page 8)*

follows, we won't have any room for "follows."

► That's not the case in this issue though. You should like the Wet Processing features, especially on bleachery and dyehouse and finishing roll maintenance, especially if you have a bleachery or some finishing rolls to maintain. Of course, if you're in spinning, weaving or knitting, our bragging about those wet process features may make you think of listening to a radio program talking about the "convenient location" of some filling station 50 miles away. That's a long way to go to fill your gas tank, but then those stations are convenient to some folks nearby and what's more probably some of those folks are listening to that radio station. So don't go away. We got a lot more—enough for everybody.

► Anyway, speaking of distances, an unsigned reader says: "Whata ya mean, Bulgaria is closer to home than Leningrad? Get out your globe and see." We still say Bulgaria is closer to Atlanta. Maybe said reader lives in another part of the world or maybe he's trying to get there the hard way. Maybe he's a Horace Greeley fan and favors going West. Measure again, Buddy.

► Come to think of it, you might be interested in the dyeing and finishing articles, even if you don't do any. The way we hear it, all that trouble in spinning, weaving, and knitting goes back to the mess the raw stock dyer or maybe even the cotton buyer unloaded on the boys. So maybe we better learn all we can about all of it, and here's the place to get it. If you don't see what you want, ask for it.

► That special section in September TI on "Man-Made Fibers" was popular all around, even getting comments and reprint requests from some cotton and wool folks. " . . . entire article was one of the best we have seen," said **Philip R. Petersen,** Gen. Mgr. International Sales Management Co., Charlotte, N. C. " . . . You have done a good job for the industry in making up this special section," commented **John E. Hoff,** E. T. Barwick Mills, Inc., Chamblee, Ga. " . . . We find these charts to be most helpful. . . . ," **John R. Magee,** Gen.

*(Continued on page 16)*

# CAUSE: Use of an old-fashioned flammable cleaning solvent

# REMEDY: Change to a non-flammable absolutely safe cleaner . . .

# IMMUNOL

## Proven

### by 11 Years of Continuous Use in Leading Mills

For faster, safer, more economical cleaning, use triple-action, low cost IMMUNOL. Used 1 part to 20 parts your water, IMMUNOL removes oil, grease, soil, size, etc. quickly, easily and in absolute safety. An all-purpose cleaner, IMMUNOL may be mixed with hot or cold, hard or soft water. In addition, IMMUNOL protects metal from rusting as it cleans. It is positively safe to personnel, equipment and property.

## NON-FLAMMABLE

No danger of fire whatsoever when IMMUNOL is used for cleaning. Use IMMUNOL anywhere in your plant under any condition without fear or danger of fire. IMMUNOL is positively safe even when contacted by an open flame.

## NON-TOXIC

IMMUNOL is odorless and completely harmless; it is easy to work with for extended periods without any ill effects to personnel. Operators can also use it without fear of skin irritations; no need for protective devices, ever.

## SAFE TO STORE

IMMUNOL is completely safe in any form. It presents no hazards to such an effective degree, that its use may warrant reduction in fire insurance rate for your plant. Also, less storage space is required when you clean with IMMUNOL.

### IS PRACTICAL FOR USE IN THESE OPERATIONS

| | | | | |
|---|---|---|---|---|
| Bleaching | Cleaning | Full Fashion | Picking | Spooling |
| Blending | Combing | Inspection | Printing | Throwing |
| Boarding | Dyeing | Knitting | Roving | Tricot |
| Carding | Drawing | Maintenance | Rust Proofing | Tufting |
| Circular Knitting | Equipment | Opening | Slashing | Twisting |
| | Finishing | Packaging | Spinning | Warping |
| | | Weaving | Winding | |

* **Another revolutionary product discovery . . . . MAKES FIBRE BEHAVE!**

**Fibregard**

Reg. U.S. Pat. Office

ORIGINAL COLLOIDAL LUBRICANT

For synthetic and natural yarns
Original colloidal stock lubricant
Binds fibres together without being sticky
Will not "load" or "gum" cards
Adheres uniformly to all fibres
Is an anti-static lubricant
Reduces fly
Increases tensile strength
Applied with tint

**ASK FOR FREE TESTING LOT**

***Test IMMUNOL at our expense. Write for a free sample today***

HARRY MILLER CORP. HAMICO 4th & BRISTOL STREETS PHILADELPHIA 40, PA.

Manufacturers of

- GLYCOLA
- ACTIVOL
- POTENTOL
- FIBREGARD
- REVERSOL
- FIRMTAL

# HARRY MILLER CORP.

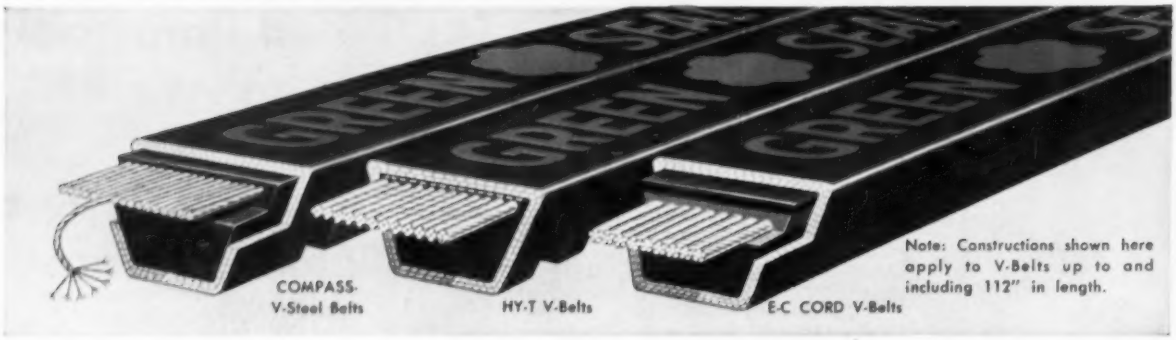
*Original Products and Processes Since 1936*

**4th and BRISTOL STS., PHILA. 40, PA.**

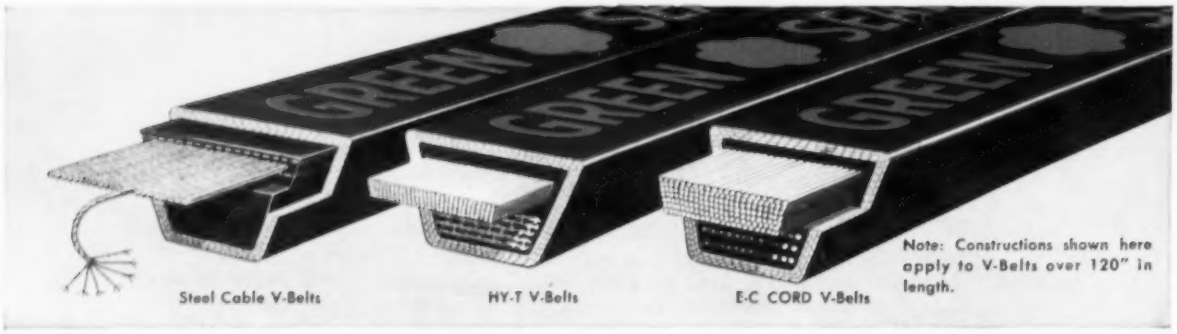
**DAvenport 4-4000**

*Service Representatives in Principal Cities*

# What's different about


COMPASS-
V-Steel Belts
HY-T V-Belts
E-C CORD V-Belts
Note: Constructions shown here apply to V-Belts up to and including 112" in length.

# V-Belts with the Green Seal?




Plenty—when you're belting multiple drives. For that Green Seal certifies the dimensional stability of every belt that carries it. There's no surer guarantee that every belt in a set will match every other one—perfectly. And that they'll *stay* matched no matter how long you stock them before installation.

So the dimensional stability of Green Seal belts is solid protection against "loafing," slipping, stretching, scorching and other mismatching troubles. And most of the credit belongs to the belts' load carriers of airplane-type steel cables or Triple-Tempered (3-T) cord — Goodyear "exclusive" cord that's carefully tempered with Tension, Temperature and Time.

This unique 3-T process brings the synthetic cord to its point of greatest strength and stability. Result: the end of shrinkage in storage—plus greatest shock- and stretch-resistance in use. All of which assures you maximum, trouble-free horsepower hours at minimum cost. Why settle for less?

DIMENSIONALLY STABLE V-BELTS with the GREEN SEAL by

**GOODYEAR**

**THE GREATEST NAME IN RUBBER**

The Goodyear Tire & Rubber Company, Dept. 794, Akron 16, Ohio

Please send me complete information on what makes V-Belts with the Green Seal different from any others made today.

Name_____

Company_____

Street Address_____

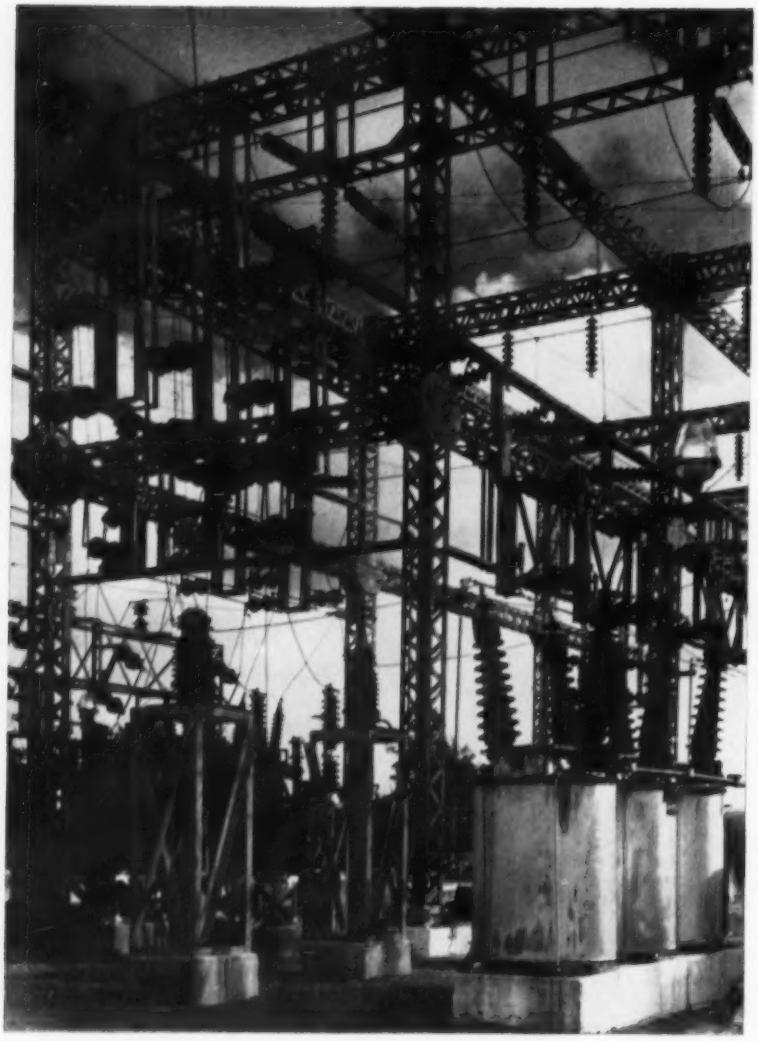
City_____ Zone_____ State_____

Compass, E-C Cord, Hy-T, Green Seal—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

Unseen thread in the world's finest fabrics . . . What is the common thread that runs unseen through the fabrics of great American mills? It's the unique contribution of Gulf Petro-engineering Service. It helps men responsible for mill efficiency keep abreast of new developments in petroleum products and their application. It gives you up-to-date answers to problems involving maintenance, lubrication, processing, fleet operation . . . helps you improve production and save money. Gulf Petro-engineering Service costs you nothing. How do you get it? Phone your nearest Gulf office, and ask a Sales Engineer to call. He's your direct link to Gulf's technical specialists and modern research facilities.

Gulf Oil Corporation
1822 Gulf Building, Pittsburgh, Pa.

GULF



# ELECTRICITY...

Electricity is defined as one of the fundamental quantities in nature, but NOBODY knows what it is.

One thing for sure, though . . . it's the lifeblood of your mill. Kind of like a woman—impossible to understand but *absolutely essential.*

That's why it's so important to select the *best* electrical contractor for your mill . . . and this means J. M. CLAYTON CO. You'll hear the name mentioned wherever electrical contracting is being discussed.

**SERVING THE TEXTILE FIELD FOR 51 YEARS**

# J. M. CLAYTON CO.

***CONTRACTING ELECTRICAL ENGINEERS***

**ATLANTA, GEORGIA**

## Shorts and Remnants

*(Continued from page 12)*

Supt., Virginia-Carolina Chemical Corp., Taftville, Conn., wrote. " . . . Read with great interest," said **Walter E. Thompson,** Heminway and Bartlett Mfg. Co., Watertown, Mass. Among others commenting or requesting reprints were: **R. M. Cushman,** Exec. V. P., Amerotron Corp., Aberdeen, N. C.; **Paul O. Anderson,** Peerless Woolen Mills, Rossville, Ga.; **W. H. Bowen,** Quality Control, Coats & Clark, Inc., Atlanta, Ga.; **R. Hoffman,** Plant Mgr., Skenandoah Rayon Corp., Utica, N. Y.; **Bert Kaiserman,** David & Dash, Inc., Miami, Fla.; **A. F. Tesi,** Celanese Corp. of Amer., Charlotte, N. C.; Althouse Chemical Co., Reading, Pa.; Whitin Machine Works, Whitinsville, Mass.; Onyx Oil & Chemical Co., Jersey City, N. J.; Callaway Mills Co., LaGrange, Ga.; Wyandotte (Mich.) Chemicals Corp.; and from textile schools at Lowell, Auburn, N. C. State, etc., etc.

► We didn't want you to go without some cheesecake so we swiped the Fancourt girl this month. Isn't she a

honey? Better not show this to the sweetheart or wife. She might stop you from reading Ole S&R's stuff every month.

► The free posters for mill bulletin boards as offered by TI continue to draw requests. New users include Parker Textile Co., Scranton, Pa.; Cramerton (N. C.) Mills; Cia. Ind. "El Salvador," S.A. de C.V., Mexico

*(Continued on page 22)*

Only preparation needed is wire brushing. Add water and apply. Pre-Krete is very adhesive and will bond to practically all surfaces.



Plain steel plate will corrode even under normal water conditions.



Ordinary cement linings tend to flake, crack and shrink, resulting in high maintenance costs.



Pre-Krete lined plate is still in perfect condition even after exhaustive testing.

# DOUBLE THE LIFE OF CORRODING STEEL VESSELS WITH SPECIAL FORMULA C-17 PRE-KRETE

*a lining at a fraction of the replacement cost*

Special C-17 Pre-Krete is an exclusive pre-blended hydraulic cement formula, designed to prevent costly corrosion or rust of plain steel vessels, open or closed. Unlike ordinary cement mixtures, Pre-Krete will give long, trouble-free service even under extreme corrosive conditions.

Special Formula C-17 Pre-Krete is chemically inert to most substances—will resist thermal shock, and is unaffected by temperature fluctuations up to 800°F. Pre-Krete is recommended for a wide variety of industrial and process applications that usually require expensive metal linings. Pre-Krete is contamination-free and non-toxic.

Contact Pocono Fabricators for the names of qualified applicators in your area. They will be pleased to give you a free estimate for lining your plain steel vessels on the job-site. For "Do-it-yourself" application, Pre-Krete is available in 95 lb. moisture proof bags. Downtime for lining the average size steel vessel is approximately 48 hours.

Pocono Fabricators, Inc.,
2811 Linton St.,
East Stroudsburg, Pa.

Send for descriptive catalog (No. 1012) including impartial test analysis of Pre-Krete under various simulated service conditions.

- ☐ send name of qualified applicator.
- ☐ please send descriptive catalogs.
- ☐ please send information on "Do-it-yourself" lining.

*Name*_____ *Title*_____

*Company*_____

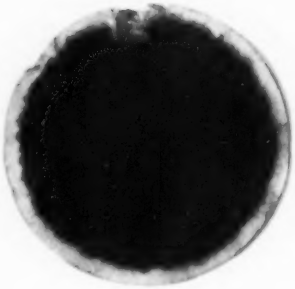
*Address*_____

*City*_____ *Zone*____ *State*_____

**pocono fabricators inc.**

Division of The Patterson-Kelley Co., Inc.
East Stroudsburg, Pennsylvania

Why



NATIONAL ANILINE

Allied Chemical

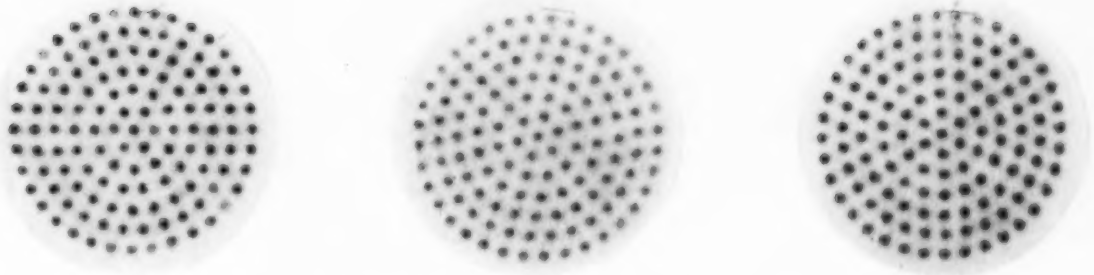
Cleaner dyeings through vastly improved dispersibility! That's the simple success story of National Aniline's "new" vat dyes.

Filterable insolubles in both reduced and unreduced form have been minimized through continuous improvement in manufacturing techniques and innovation of unique processing methods.

# vat dyes "come clean" with Carbanthrenes®!

*Dispersibility of Vat Dyes as demonstrated by Buchner Funnel Filter Test*

*Ordinary unimproved vat dyes*



*Corresponding modern National Carbanthrene® Dyes*

Dyers and printers currently using Carbanthrenes® are enthusiastic about the brighter, more uniform and level shades reproduced easily, time after time. Processing troubles are minimized. There is less waste, fewer rejects and seconds due to dyestuff failures. And frequently dye yields are improved.

The superior physical characteristics of these American-made vat dyes are another result of intensive research at our Buffalo Research and Engineering Center. This program, in addition to the work of our Color Standardization Control and coast-to-coast Technical Service Laboratories, is the foundation of our longstanding reputation for top-quality dyes and unequalled customer service.

**NATIONAL ANILINE DIVISION**

**ALLIED CHEMICAL & DYE CORPORATION**
**40 RECTOR STREET, NEW YORK 6, N. Y.**

Akron Atlanta Boston Charlotte Chattanooga Chicago Columbus, Ga. Greensboro Los Angeles
New Orleans Philadelphia Portland, Ore. Providence Richmond San Francisco Toronto

Allis-Chalmers announces...

# NEW totally-enclosed textile MOTOR

This modern, deep-rib frame has become a famous sign of high cooling efficiency in Allis-Chalmers TEFC motors. NOW — its tough dependability has been combined with lint-free features to make this motor just right for textile applications.

**MORE** protection against lint

## Here are only a few of the TEFC motor features:

**Ribbed Frame**

Lint won't stick on this frame. Free-flowing air continually blows ribs clean.

**Fan Bowl**

Has no grid to collect fly and lint.

**Optional Design**

Permits placement of fan at shaft or front end of motor, and choice of conduit box or cable and fitting.

**Find out more** from your A-C sales office or distributor, or write Allis-Chalmers, General Products Division, Milwaukee 1, Wisconsin. Ask for Bulletin 51B6055C.

A-C ALLIS-CHALMERS

A-5289

# ALLIS-CHALMERS

THE NEWEST & BEST

# GWALTNEY SPINNING *by* SACO-LOWELL

## Creating new standards of production in over 85 profit minded, cost conscious mills

Gwaltney Spinning Frames have demonstrated beyond doubt, through their outstanding performance, that they produce stronger, far more even yarns, of higher grade than the same count yarn produced from the same stock by "yesterday's" spinning. . . . This noticeable improvement in quality has occurred with lower operating costs and increased production. All result in higher profits.

Why wait . . . join the trend toward Gwaltney. A Saco-Lowell Engineer will gladly prepare a **"Forecast of Savings"** based on a **Saco-Lowellizing Program** which includes Gwaltney Spinning for your mill.

**SACO-LOWELL SHOPS**

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD & SACO, MAINE; SANFORD, N.C.; EASLEY, S.C. Sales Offices: CHARLOTTE · GREENSBORO · GREENVILLE · ATLANTA

# TC HYDRO

As miners of Sulfur Bearing Ores, we are now producing another Basic Sulfur Textile Chemical, **TC HYDRO** for the Southern Textile Industry.

## SODIUM HYDROSULFITE

**CONCENTRATED**

### DEPENDABLE SUPPLY

Long a trusted source of Sulfuric Acid, Sulfur Dioxide, Organic Sulfonates and other textile chemicals, we are utilizing our know-how and basic position in Sulfur Chemistry to produce another quality product for the textile industry.

### FAST DELIVERY SERVICE

Our location in the heart of the Southern textile industry, permits us to render overnight truckload service to most Southern textile plants. Small lot shipments are available from centrally located warehouses.

### HIGHEST QUALITY

**T C HYDRO** is a dry, white, free flowing, crystalline powder of uniform size and structure. It is dust-free, assuring highest stability and uniformity.

*Phone, wire or write for literature and test samples if desired.*

TENNESSEE CORPORATION

617-629 Grant Building, Atlanta, Ga.


## Shorts and Remnants

*(Continued from page 16)*

D. F. This month we offer our first poster for the dyehouse. Look for it. Copies are free, as long as they last.

► 38, 21, and 40 years of service with Cocker Machine & Foundry Co. are represented by (l to r): **Frank Suggs,** Chief Engr.; **John Bodansky,** V. P.; and **Ed Whitener,** now retired

and receiving congratulations from **John Cocker,** Pres. & Gen. Mgr., at recent dinner and open house at company's new plant at Ranlo, N. C.

**We Go To Jail**

One day's mail recently brought letters from **J. Dan Smith,** Supt. Textile Mill, Texas Prison System, Huntsville, Tex., and from **J. Vernel Jackson,** Warden, Clinton Prison, Dannemora, N. Y. The latter was interested in "Warp Sizing" reprints when published. "Of great help," said Mr. Jackson. And Mr. Smith wanted to know where to buy knitting machines for men's worksocks and slipover sweaters.

**What's In A Name**

We couldn't exactly place items requested by **W. E. Jennings,** Fiber Div., National Aniline, Hopewell, Va. Further inquiry brought letter enclosing "clipping from TEXTILE INDUSTRIES." Turned out to be clipped from some other mag whose name slips our mind. Read all of them, if you wish, Mr. Jennings, but keep sending the inquiries to us.

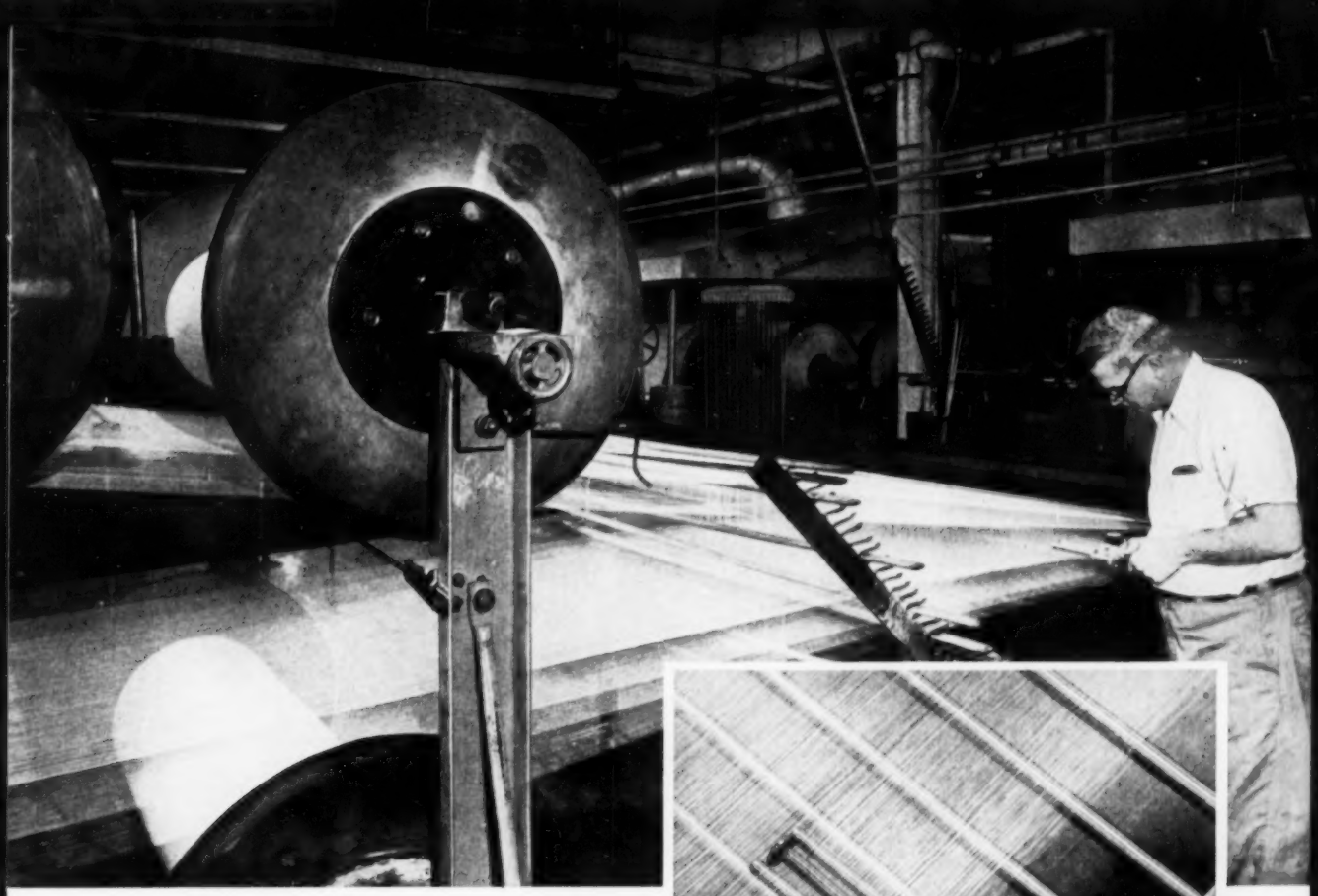
**Spinning Drafts**

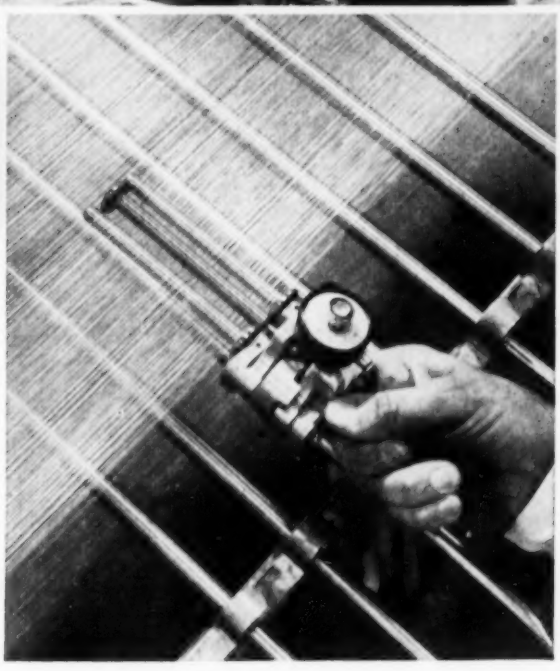
"Kindly send us two copies of the article 'These factors affect spinning drafts' [June '57] . . ."

R. LAIDLAR
Cia. Ind. "El Salvador" S. A. de C. V.
Mexico 1, D. F.

**We Stand Corrected on "Tycora"**

"I read with great interest . . . [To-





# NEW KIDDE SLASHER TENSOMETER ends uneven yarn sheet tension in cotton system slashing

The new KIDDE Slasher Tensometer prevents a principal cause of streaky fabric in weaving mills that slash their yarn on the cotton system. No matter how many creel beams you use to make up your warp, you can now be sure that the tension in all yarn sheets is the same. With the KIDDE Slasher Tensometer it is easy to compare the tensions in the yarn sheets making up the sley and adjust the beam let-offs to even out any differences. It eliminates the all too fallible human element in estimating tensions from different beams in the same set.

Developed in cooperation with the Textile Research Laboratory of American Viscose Corporation, the KIDDE Slasher Tensometer will provide quality insurance in any slasher room. For prices and complete information, write today to: Dept. **STG1.**

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS • BEAMERS
CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS • TENSION COMPENSATORS

**Kidde** MANUFACTURING CO., INC. — 42 FARRAND STREET — BLOOMFIELD, NEW JERSEY

SOUTHERN OFFICE — JOHNSTON BUILDING, 212 SOUTH TRYON ST., CHARLOTTE, N. C.

*The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.*

# SOUTHERN STATES' NEW COILER HEAD AND BASE MAKE CONVERSION TO LARGER CANS SELF-PAYING

For mills seeking a low initial cost for conversion to larger cans, Southern States' new conversion unit is the answer. It consists of: 1) the identical, vastly improved ball bearing head used on the new complete coiler; 2) an adapter spacer and upright shaft for increased coiler height necessary to accommodate 36" or 42" cans; and 3) a new, standard-type base assembly with a conventional gear system for driving the can table. All necessary components are furnished in kit form for quick installation, *using your existing stands.*

Southern States' Conversion Units are designed for use on any make cotton card and for accommodating cans of larger diameter.

Case histories of mills prove conclusively that Southern States' conversions are so economical they soon pay for themselves. For a small initial investment, you enjoy all the advantages of more efficient handling; lower operating costs; improved quality; simplified oiling; ease of maintenance; smaller parts inventory; and years of satisfactory service.

Get full facts from your Southern States representative or write direct to us for Technical Bulletin No. 203-a.

**SOUTHERN STATES**
**EQUIPMENT CORP.**
HAMPTON, GEORGIA

## Shorts and Remnants

day's status of Textured Filament Yarns—Sept. '57] . . . would like to point out several inaccuracies concerning Tycora yarns.

"1. Tycora yarns are not necessarily produced by confined space crimping. . . .

"2. The price of Tycora yarns is $4.05 per pound for 70 denier.

"3. Tycora is our trade mark for all modified continuous filament yarns that we produce and market. It represents an out-put from some 15 processes and the variations of these processes that have been developed and engineered by our company. . . "

CHARLES H. WEINER
Gen. Merchandise Mgr.
Textured Yarn Co., Inc.
New York 16, N. Y.

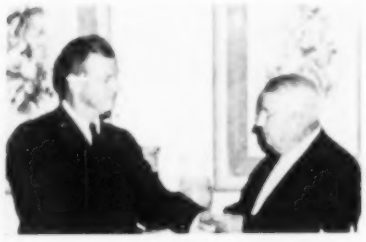
► Thank you, Mr. Weiner, for giving us this information. We are glad to publish this so our readers who buy yarns can have correct data.

### Seat Covers

Friend **Geo. Fogle,** Gen. Mgr. Lowell Bleachery South, Griffin, Ga., stumped S&R on showing a new "seat cover" material. Turned out to be diaper cloth.

### Orchids to Sam Hayes

**Sam Hayes,** Sou. Mgr. Ciba Co., Charlotte, was recently given a testimonial dinner marking his 25th anniversary with Ciba. He doesn't look that old. Shown below Sam is receiving 25-year gold watch from **Dr. Harry B. Marshall** (left), Pres. Ciba Co.



In a recent talk Sam swore that a student in a class he taught in his first mill job at Millville (N. J.) Mfg. Co. gave the following formula for water: HIJKLMNO. Figure it out.

### Stream Pollution

"There were two articles in TEXTILE INDUSTRIES for July which we are particularly interested in. We would like to receive two copies each of 'An Answer to Stream Pollution'

and 'The B.O.D. Test in Textile Mill Waste Problems.' These articles stirred up quite a bit of interest. . . "

J. ANDREW CLARK
Wallerstein Co., Inc.
New York, N. Y.

**Stimulating Value**

" . . . I found again (June '57) many interesting articles and illustrations. Your publication is of great stimulating value to me and my staff. . . "

HELMUTH W. FREY
Mg. Dir., Gebruder Spohn GMBH
Neckarsulm/Wurth, Germany

**Valuable Resource**

" . . . I find your publication . . . . a very valuable resource. . . . "

ANTHONY M. STRAUS
Straus Knitting Mills
St. Paul, Minn.

**From 1949**

"Will you kindly send us four (4) copies of your booklet on 'Drafting Long, Fine-Fibered Cottons on Superdraft Roving Frame'? [Mar. '49] . . . "

P. J. WHITE
Supt. J. P. Stevens & Co., Inc.
Victor Plant, Greer, S. C.

**Loom Stop Counters**

"Our Engineering Department wishes to furnish the plants in the company with reprints on the Loom Stop Counters [March '57] . . . . "

R. D. PERRY
Ind. Engr., Callaway Mills Co.
LaGrange, Ga.

**Physical Textile Testing**

"We are interested in obtaining six copies of a booklet entitled 'Physical Textile Testing—A Training and Reference Manual' by Mary Jo Wesson of the West Point Manufacturing Co. [1951] . . . "

GEORGE A. PETIK
Textile Fibers Dept.
E. I. du Pont de Nemours & Co., Inc.
Wilmington, Del.

► Supply of reprints exhausted. Patient readers may not have to want long—not too long, anyway. Publication of a new version is planned.

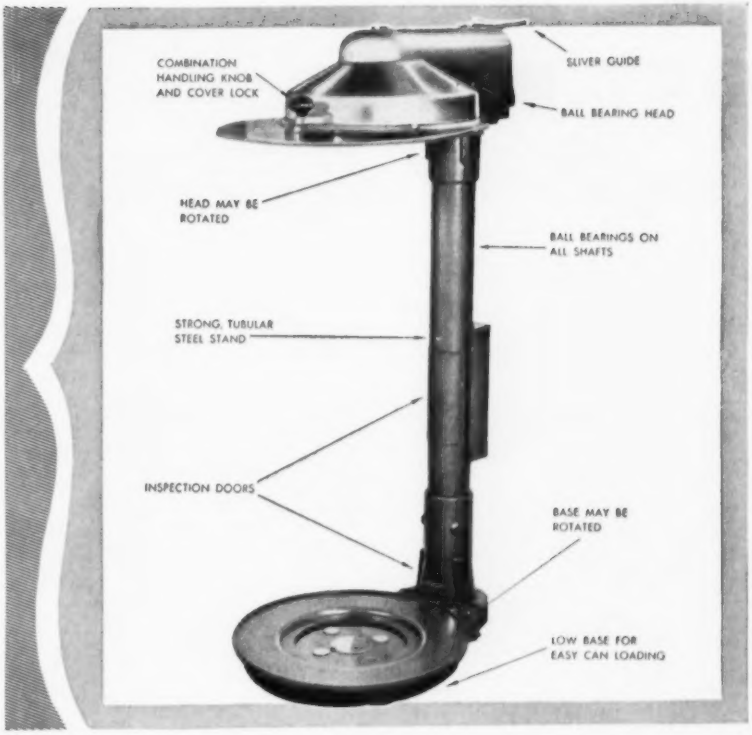
**On Synthetics**

"We would like to have several copies of Eldon Stowell's article [Sept. '57] . . . "

HERMAN EPSTEIN
National Rayon Dyeing Co., Inc.
Newark, N. J.

**Praise from England**

" . . . I believe that these firms . . . hold the view that TEXTILE INDUSTRIES is one of, if not the outstanding, publi-



COMBINATION HANDLING KNOB AND COVER LOCK
SLIVER GUIDE
BALL BEARING HEAD
HEAD MAY BE ROTATED
BALL BEARINGS ON ALL SHAFTS
STRONG, TUBULAR STEEL STAND
INSPECTION DOORS
BASE MAY BE ROTATED
LOW BASE FOR EASY CAN LOADING

# SOUTHERN STATES NOW OFFERS ITS VASTLY IMPROVED COILERS IN ALL SIZES UP TO 20 INCHES

The greatly improved line of Southern States Complete Coilers and Conversion Units has been expanded to include 16, 18, and 20-inch sizes. Now, no matter what can diameter, or can height, suits your operation best, you can have all of the advantages offered by this premium-quality coiler.

These streamlined, compact coilers are designed for direct attachment to any make of cotton card, left or right hand. Installation is rapid and economical.

Every engineering and operating feature desired by mill men has been included in the Southern States coilers:

Cut tooth gears throughout; self-aligning pillow blocks on upright shaft and on calender roll shaft; precision-ground cast iron calender rolls; fully adjustable can table; and quickly detached coil spring roll-loading device.

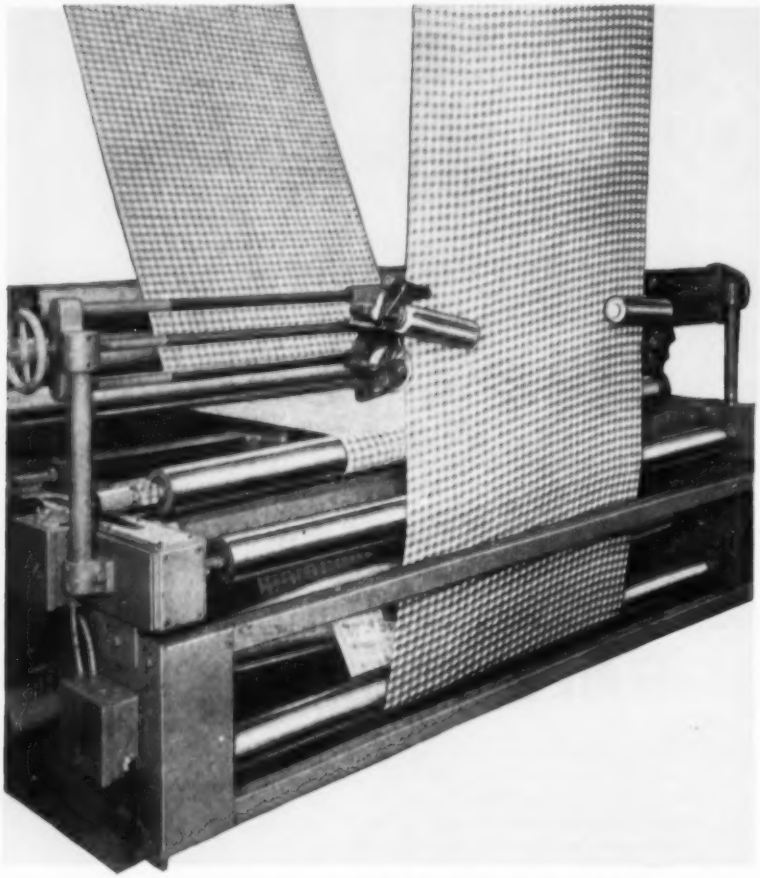
Nothing has been spared to provide mills with the finest coilers that will operate at peak efficiency, require a minimum of maintenance, and give years of trouble-free service.

Get the facts from your Southern States representative, or write for Bulletin 203-a.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

# GET RID of SKEWS or BOWS or BOTH!

WITH ONE COMPACT UNIT!



IT'S THE NEW MOUNT HOPE MODEL SP COMBINATION WEFT STRAIGHTENER!

NEW BULLETIN shows how double-action straightening aligns selvages . . . corrects leading or lagging centers . . . allows lagging selvage to catch up with leading selvage. Read all about this latest application of Mount Hope engineering know-how to bow and skew problems. Send for your copy today

MOUNT HOPE MACHINERY COMPANY

FIRST SOURCE OF ENGINEERED FABRIC HANDLING DEVICES AND SYSTEMS

56 Fifth Street, Taunton, Mass.


## Shorts and Remnants

cation devoted to the Textile Industry. . . . "

E. HOWCROFT
Dir. Textile Machinery & Accessory Mfrs. Assn.
Manchester, England

**Vat Color Emulsion System**

"We have read with interest . . . about vat color emulsion system for machine and screen printing [June '57] . . . "

B. B. KATRAK
Gen. Mgr. Khatau Mills
Byculla, Bombay, India

**Acrylic Fibers**

"I would greatly appreciate your kindness in letting me have tearsheets [Why So Many Acrylics—May '57]. ."

CHARLES EVERETT
Iselin-Jefferson Co., Inc.,
New York, N. Y.

► In case you are interested, Lloyd Wm. Sahley, P. O. Box 3989, Cleveland, O., tells us his book on "Dimensions of the Human Figure" [Price $1] is of interest to industry, medical schools, art schools, homemaking, research organizations, etc. Could be. We wonder if it includes a calorie chart.

► A mill friend suggests we refer a Brazilian inquirer on knitgoods shrinkage control to Tubular Textile Machinery Co.; **J. O. Holt,** Mgr. Ind. Sales, Sinclair Refining Co., writes us that we should tell recent inquirer for "Humdinger" oil that it comes from H. C. Harding, Inc., Phila.; **Albert S. Cooper, Jr.,** Chem. U. S. D. A., New Orleans, sends more makers of partially acetylated (PA) cotton for recent TI reader request: Proctor Electric Co. Zedalon Div., Phila., for ironing board cover cloth; and Eastman Chemical Products, Inc., Kingsport, Tenn., for both PA and FA cotton fibers. We hereby pass these hints along.

► Ole S&R gets a couple of readers (including his wife, of course) like the candidate for office who got two votes—said he voted for himself and didn't know who the other darn fool was. Especially for something free like the reprints offered here in June. Requests still coming include **Andre Solari,** foreman, Lainart Hosiery, Inc., Montreal, Que., Can.;

# STANSET

## FOR Standout Wash 'N Wear

with Stanset chemical reactor resins, your fabrics:

- ACHIEVE MECHANICAL AND CHEMICAL FINISHING EFFECTS WITH LASTING WRINKLE AND SHRINK RESISTANCE.
- STAND UP AFTER REPEATED LAUNDERINGS.
- RETAIN THEIR APPEARANCE AND SHAPE FOR GREATER LENGTH OF TIME.
- "LOOK YOUNGER LONGER."

Many of STANSET's friends are enthusiastic about the above features of STANSET and also about the extremely low tensile loss due to chlorine bleaching, as well as its superior non-yellowing characteristics.

There are other features about STANSET chemical reactor resins *you should know.* If you would like to receive additional material regarding STANSET, write us — we'll be glad to send it to you. There's no obligation. Remember — the sooner you learn about all of STANSET's excellent characteristics, the sooner you can put them profitably to work for *you.*

**STANDARD CHEMICAL PRODUCTS INC.**

**HOBOKEN, NEW JERSEY • CHARLOTTE, NORTH CAROLINA**

# Finest Coiler you can buy!

BOTH HEAD AND BASE SWIVEL FOR ADJUSTMENT

SAVES LABOR

EASIER TO INSTALL

TAKES LESS FLOOR SPACE

## McDONOUGH
## UNIVERSAL CARD COILER
(Patents Pending)

This coiler is its own best salesman. It outsells all the rest put together because it out performs all others. It saves labor by putting more sliver in the can. Its quality construction, including sealed ball-bearings, hardened steel gears, etc., means extra years of dependable service. Ask for free folder with complete specifications.

Let this coiler prove its worth to you in your mill. Have one installed on a

**90 DAY TRIAL** *Without Obligation*

*Since 1890*

**McDONOUGH POWER EQUIPMENT, INC.**
MACHINE & FOUNDRY DIVISION
**McDONOUGH, GA., U.S.A.**


## Shorts and Remnants

**Ovide Jubinville,** Gotham Hosiery Co., Ltd., St. Hyacinthe, Que., Can.; **Carlo S. Chambon,** Celanese Mexicana S.A., Mexico D. F., **Fernando Beiro,** Ribbon Fabric Co. of Cuba S. A., Havana; **Frederick L. Lame,** Sou. Research Inst., Birmingham, Ala. If you can't locate your June issue and want to know what's still left in the pot, write to S&R. No charge.

► All for one; one for all—anything and everything for a bigger and better textile industry. That's TI, and that's all till next month except a

big Thanksgiving and thanks from S&R for any one who got this far.

## Statement of Ownership

Statement required by the act of August 24, 1912, as amended by the acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) showing the ownership, management, and circulation of TEXTILE INDUSTRIES published monthly at Dalton, Georgia for October 1, 1957.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, W. R. C. Smith Publishing Co., Atlanta, Ga.; Managing Editor, J. Frank Guest, Atlanta, Ga.; Executive Editor, George H. Dockray, Atlanta, Ga.; Business Manager, John C. Cook, Atlanta, Georgia.

2. The owners are: W. R. C. Smith Publishing Co., Atlanta, Ga.; Estate of W. R. C. Smith, Atlanta, Ga.; W. J. Rooke, Atlanta, Ga.; O. A. Sharpless, Atlanta, Ga.; T. W. McAllister, Windermere, Fla.; E. W. O'Brien, Atlanta, Ga.; J. C. Cook, Atlanta, Ga.; R. P. Smith, Atlanta, Ga.; Mrs. E. L. Philpot, Atlanta, Ga.; A. F. Roberts, Atlanta, Ga.; S. J. Jones, Atlanta, Ga.; W. C. Herbert, Atlanta, Ga.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

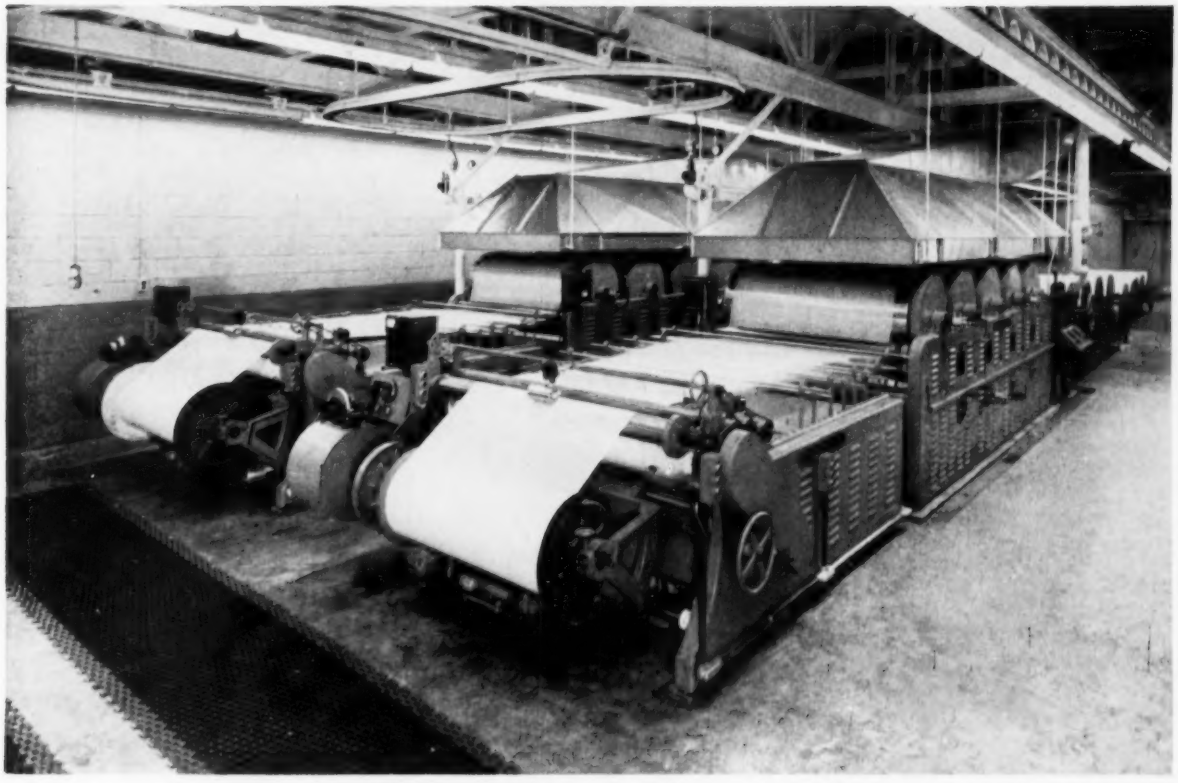
JOHN C. COOK
Business Manager

Sworn to and subscribed before me this 18th day of September, 1957.

SEBA J. JONES, Notary Public
[Seal]

My commission expires February 23, 1958.

# You'll Need Fewer Slashers



## When You Standardize on Cocker

High Speed is one of the reasons for the high production of each Cocker Slasher. This recent 100% installation of Cocker Slashers is operating at sustained speeds of 126 yds. per min. on 80 square print cloth. Mills running other goods report speeds up to 140 yds. per min.

Heavy construction, superb engineering, and many other features cut work stoppages to a minimum. Mills report 20% to 25% more yarn per loom beam and production rates of over 1400 lbs. per hour.

Complete and accurate push button controls — full instrumentation — fast and simple beam doffing — and Cocker's patented Beam Drive which provides constant adjustable tension regardless of speed or load — all contribute to smooth and trouble-free production week after week and year after year.

Cocker Slashers are made with from 5 to 13 cylinders and up to 144" width for any type yarn. Write today for full information on the slashers you need.

THE LEADER COCKER AROUND THE WORLD

Plant and Offices at Ranlo, N. C.
(Mailing Address Box 431, Gastonia, N. C.)

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

New England and Canadian Representatives: J. S. Fallow & Co., 279 Union St., New Bedford, Mass. • 1215 Greene Ave., Montreal 6, Canad

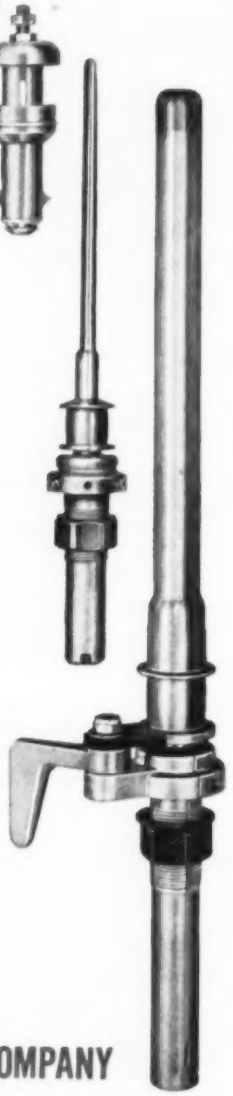
# Personal NOTES ABOUT MEN YOU KNOW

**Carl R. Harris,** a vice-president of Erwin Mills, Inc., with headquarters at Durham, N. C., has been named director of public relations in addition to his other duties, succeeding Chauncey W. Lever, who resigned the post at both Abney Mills, Greenwood, S. C., and Erwin Mills, Inc., to become vice-president of the South Carolina National Bank.


Complementing each other

HARTFORD

- Autolatching Bobbin Hangers for easier creeling
- Ball Bearing Filling Spindles: Top Drive & Acorn Drive
- Ball Bearing Warp Spindles — for Paper Tube or Wood Bobbin



Pre-lubricated ball bearings . . . 5 years, no lubrication
Spindles engineered for special applications

HARTFORD MACHINE SCREW COMPANY

DIV. OF STANDARD SCREW CO. • P.O. BOX 1776 • GREENVILLE, S.C.


Recently promoted to vice-presidents of Baker-Cammack Hosiery Mills, Burlington, N. C., were **Morris D. Cammack** who is with the sales department headquartered in New York City, and **N. K. Murphy,** in charge of sales in the Chicago office.

**F. Morse Clark** is now resident manager of Baltic Mills, Enfield, N. H., formerly one of the American Woolen Mills recently purchased by A. G. Dewey & Co. of Quechee, Vt.

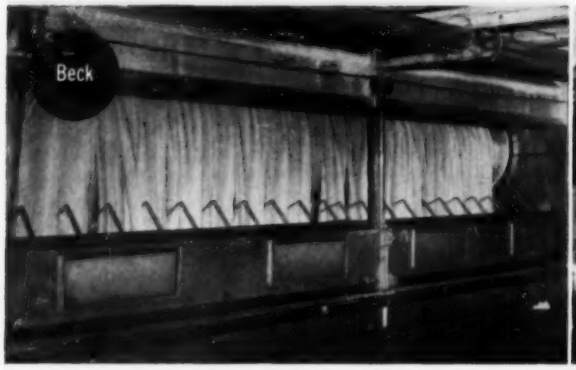
Recently elevated from first vice-president to presidency of the Carded Yarn Association was **J. A. Conner,** vice-president and general manager of Hyde Park Mills, Covington, Tenn., succeeding **M. Y. Cooper,** vice-president of Harriet and Henderson (N. C.) Mills. **A. J. M. Wannamaker,** Orange Cotton Mills, Orangeburg, S. C., stepped up from second to first vice-president of the association; and **L. E. Bowen, Sr.,** secretary and treasurer of

**Mr. Conner**

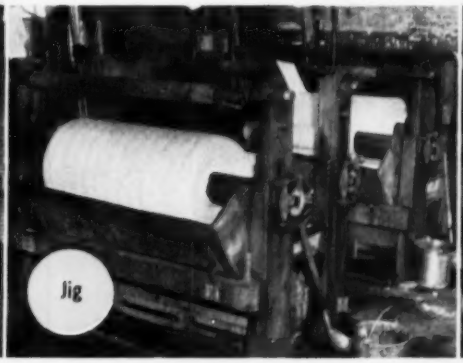
Tifton (Ga.) Cotton Mills, was made second vice-president. **E. O. Fitzsimons,** Charlotte, N. C., continues as executive vice-president and secretary and treasurer. New directors are **G. P. Barnwell,** Bibb Manufacturing Co., Macon, Ga.; **D. R. LaFar, Jr.,** Harden Manufacturing Co., Gastonia, N. C.; **Halbert M. Jones,** Waverly Mills, Laurinburg, N. C., and **J. M. Ledbetter, Jr.,** Ledbetter Manufacturing Co., Rockingham, N. C.

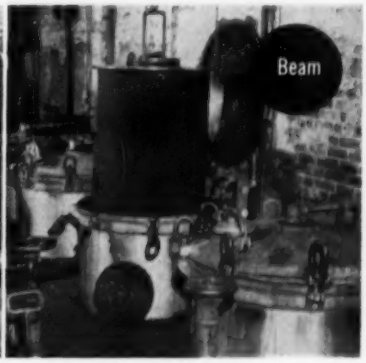
**Harold E. Rooney,** long-time superintendent of the now closed Berkshire-Hathaway Mill in Brattleboro, Vt., is now superintendent of the Adams, Mass., mill of Berkshire, succeeding **Ralph Jackson,** retired.

Three manufacturing executives of Burlington Industries member companies have been elevated to vice-presidential posts of their respective companies. **James D. Barbee,** formerly vice-president, has been named executive vice-president of Cramerton Mills; **Carl Annas,** formerly division manager, has been named vice-president of Mooresville Mills; and

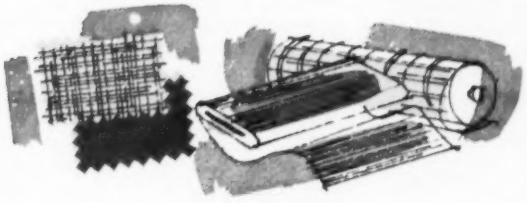


## Whenever an all sodium salt* is required for dyeing...




# Use MORTON Chemical Grade '999' Salt



*Morton 'Chemical Grade 999' is the all sodium salt (sodium chloride and a trace of sodium sulphate). It contains no calcium compounds that can cause cut threads, off-shading, and costly shutdowns.

Morton 'Chemical Grade 999' Salt can help you to get softer finishes, more even shades, greater color intensity. That's because Morton 'Chemical Grade 999' is a low cost, high purity evaporated salt, free of objectionable calcium and magnesium compounds.

Morton 'Chemical Grade 999' is more than 99.9% pure sodium chloride, recommended for use whenever commercial calcium-free salt is required.

Available in 100-lb. bags or bulk, 'Chemical Grade 999' is specifically recommended when direct salting is used in dyeing rawstock, package, beam, beck or jig with either sulphur, direct, or naphthol dyes.

☐ Please send me more information about Morton 'Chemical Grade 999' Salt.

☐ I would also like to know how much I can reduce calcium and magnesium content by using Morton 'Chemical Grade 999' Salt. Please have a Morton Brine Engineer call on me to explain the benefits of using 'Chemical Grade 999' Salt.

Name_____

Title_____

Company_____

Street Address_____

City_____ Zone_____ State_____

**MORTON SALT COMPANY**

INDUSTRIAL DIVISION

Dept. TI-11, 120 So. LaSalle Street, Chicago 3, Illinois

Our service is tailored to provide all the working capital any qualified client needs, without increased borrowing, diluting profits or interfering with management.

Information available for any manufacturer or distributor with $500,000 or more annual sales.

**Textile Banking Company**

55 Madison Avenue, New York 10, N.Y.

*Providing operational financing for the apparel, electronics, furniture, leather, plastics and textile industries.*

Subsidiaries:

T. B. C. Associates, Inc., New York  Southwest Texbanc, Inc., St. Louis

## Personal NOTES ABOUT MEN YOU KNOW

**Larry P. Martin,** who was serving as manager of planning, development, and quality control, has been named a vice-president of Cramerton Mills.

Engaged in graduate work at North Carolina State College, Raleigh, N. C., is **Joel Richardson** who has been granted a one-year study leave from his duties as assistant professor of textiles at Clemson (S. C.) College. **Dr. William T. Rainey,** associate professor of textile chemistry and dyeing, and **J. Lester Thompson,** assistant professor of yarn manufacturing, have rejoined the Clemson textile school staff following leaves of absence.

**Harry C. Minasian,** who has been with Concordia Manufacturing Co., Central Falls, R. I., for the past 25 years, has been named plant superintendent, succeeding the late Leon G. Boghossian.

At Dan River Mills, Inc., Danville, Va., **Robert L. Drake,** who was assistant traffic manager, has been named general traffic manager, succeeding C. T. Hester, Jr., resigned. Mr. Drake is in charge of finished products as well as the firm's fleet of in-town and out-of-town trailer trucks. * * * **W. C. "Dan" Daniel,** national commander of the American Legion, has been named assistant to the president, W. J. Erwin.

Deering Milliken & Co. announces that **Tom C. Jolly 3d** has assumed duties as general manager of Laurens (S. C.) Cotton Mills. Mr. Jolly had been superintendent of D-M's Drayton Mill, Spartanburg, S. C.

New boss dyer at Dorr Woolen Co., Guild, N. H., is **Harmen Schozel,** who succeeds Stanley W. Wade.

Recently elected an assistant vice-president of M. Lowenstein & Sons, Inc., New York, N. Y., was **William H. Suttenfield, Jr.,** who is in charge of grey mill operations in New York. * * * **W. F. Gates, Jr.,** recently underwent an orientation course with the firm, in preparation for managing a completely new print cloth mill, complete with finishing facilities being built in Manila by International Textile Mills, Inc., and said to be the fifth largest textile plant around Manila

*(Continued on page 36)*

# Colgate

# SURFACE ACTIVE AGENTS

## Have Many Uses In Textile Wet Processing

### COLGATE ARCTIC SYNTEX 036

**A 100% Liquid Non-Ionic Surface Active Agent. For Use Where An Efficient, Economical Cleaning, Scouring, Wetting, Penetrating and Emulsifying Agent Is Needed.**

Compatible with anionic, cationic and other non-ionic chemical substances, ARCTIC SYNTEX 036 is not inactivated by acids, alkalies, oxidizing or reducing agents; or by most organic ions. Stable for long periods at high temperatures. Will not form salts with metal ions. Very effective at low concentrations. Stable and effective in both hard and soft water.

**CHEMICAL ANALYSIS:**

| | Per cent as received |
|---|---|
| Active Ingredient | 99+ |
| Moisture | 0.5 max. |
| Ash Content | 0.1 max. |

**STABILITY:**

| | |
|---|---|
| Hard Water | Unaffected |
| Metal Salts | Unaffected |
| Alkalies | Unaffected |
| Acids | Unaffected |
| Oxidizing & Reducing Agents | Unaffected |

**Recommended For Use In Textile Processes or Compounds:** (1) Where emulsification and removal of oil and grease are desired or are problems. (2) In acid or alkaline solutions where other surface active agents may be inactivated. (3) In hard water or solutions of metal salts. (4) In combination with other anionic and cationic agents and other surface active or nonsurface active agents.

### COLGATE MENTOR BEADS

Heavy Gravity 60-lb. Bags

Low Density 30-lb. Bags

**Spray Dried Neutral Alkyl Aryl Synthetic Detergent. Provides Excellent Wetting, Penetrating, Foaming and Dispersing Properties in Hot or Cold, Hard, Soft, Alkaline or Acid Waters.**

A high-molecular-weight alkyl aryl sulphonate-type detergent, MENTOR BEADS has many uses in textile processing including: Wetting Out, Desizing, Kier Boiling, Degumming, Rayon "Boil Off," Bleaching, Fulling, Scouring, Dyeing, Washing After Dyeing, Print Washing, Finishing, Softening, Etc.

**CHEMICAL ANALYSIS:**

| | | |
|---|---|---|
| Active Ingredient | | 36.5% |
| Moisture | | 2.5% |
| Density or Apparent Gravity | Average Light | .20 |
| | Average Heavy | .40 |

**STABILITY:**

| | |
|---|---|
| Hard Water | Clear up to 550 ppm hardness |
| Acid—Boiling .25% in Sol. of pH-1 | Stable after 5 hrs. |
| Alkali—Boiling .25% in Sol. of pH-13 | Stable after 6 hrs. |
| Boiling Water | Stable |
| Atmospheric Oxidation | Stable |

**NOTE**

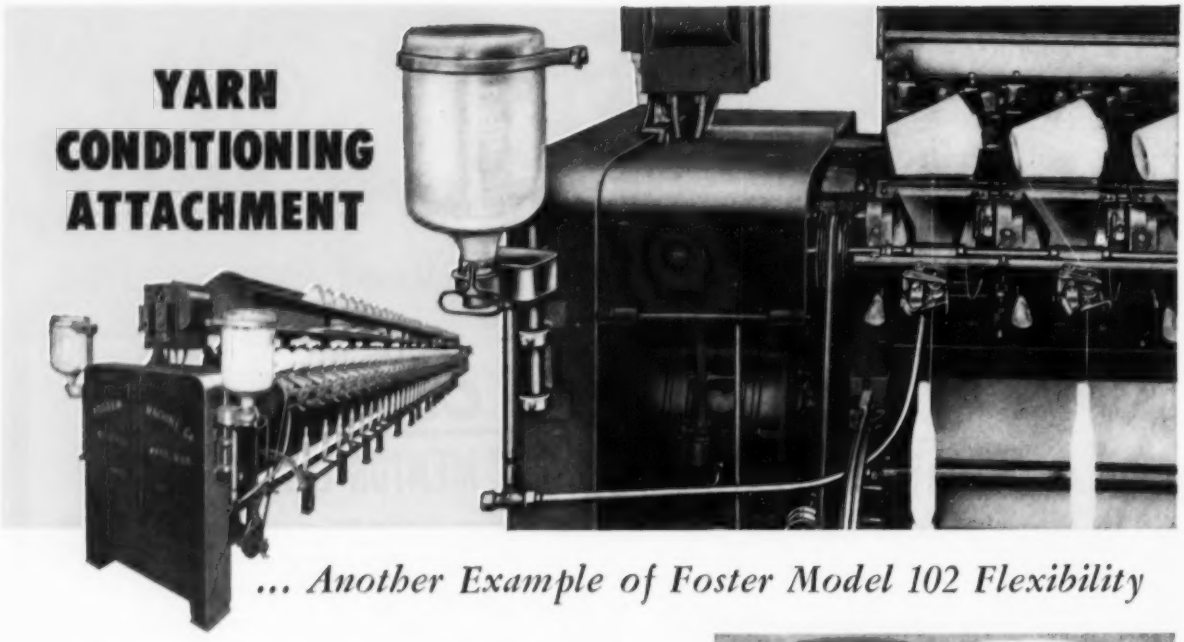
**For more detailed information on either or both of these Colgate Products, write to:**

*Technical Service Division, Industrial Sales Department*

**COLGATE-PALMOLIVE COMPANY**

**300 Park Avenue New York 22, N. Y.**

# YARN CONDITIONING ATTACHMENT



## ... *Another Example of Foster Model 102 Flexibility*

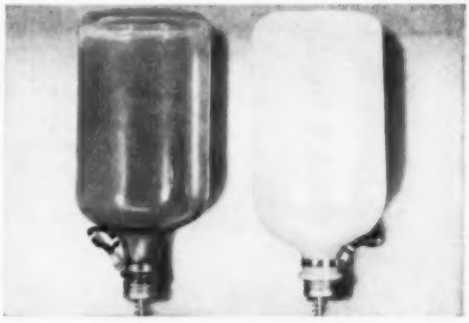
This flexibility feature of the Foster Model 102 Winder is particularly important, because some types of winders can not use yarn conditioning attachments.

This attachment lubricates and softens yarns with a wax or oil emulsion. It restores normal moisture content and gives the yarn a soft hand, so that it will run well in the knitting machine and reduce needle breakage.

Readily applied to existing machines, or supplied with new machines, it is particularly useful when winding mercerized yarn or package dyed yarn. It can condition any type of yarn at any speed within the capacity of the machine — up to 750 y.p.m. It also permits numerous variations in percentage of moisture pickup.

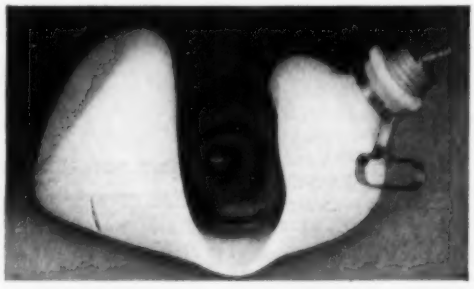
Other flexibility features of the Foster Model 102 are: — 1. Handles any type or count of staple yarn except the coarsest. 2. Produces any cone taper commonly used and any angle of wind from 9° to 18°, with simple and inexpensive changes. 3. Can be equipped to wind knitting cones, warping cones, parallel tubes, dye packages or short traverse cheeses. 4. Winds dyed yarn, even when damp. 5. Can be built to wind up to 7" traverse.

Who knows what you'll be winding a few years from now? Be prepared for the unforseen insofar as possible. Get all the facts about the Foster Model 102. Send for Bulletin A-95 now.



GLASS PLASTIC

PLASTIC BOTTLES now available for Foster Yarn Conditioning Attachment. Weigh only 2 lbs. ½ oz. Glass bottle weighs 6 lbs. 15½ oz.



UNBREAKABLE. Does not shatter, if dropped. Lasts indefinitely; eliminates accidents; pays for itself many times over.

**FOSTER MACHINE COMPANY**

*A Winder for Every Textile Purpose*

Westfield, Massachusetts, U. S. A.
Southern Office – Johnston Bldg., Charlotte, N. C.

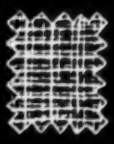
*Canadian Representative*—Ross Whitehead & Co., Ltd., 1475 Mountain St., Montreal, Que. and 35-37 King St., Toronto, Ont.
*European Representative* — Muschamp Textile Machinery Limited, Keb Lane Bardsley, Oldham, England

through products from FARBWERKE HOECHST AG

the cradle of all naphtol chemistry

a new line of stabilized azoics...

# hostagens

developed and  manufactured by

HOECHST CHEMICAL CORP. WEST WARWICK, R. I.

sole selling agents

CARBIC COLOR & CHEMICAL CO., INC.

451 WASHINGTON STREET NEW YORK 13, N. Y.

CHARLOTTE • PROVIDENCE • PHILADELPHIA • COLUMBUS • LOS ANGELES • HAMILTON, ONTARIO

Tennant shows 127-year-old EXETER MANUFACTURING CO.

# how to make floors TWICE as bright—at ½ the cost

**Here, in America's oldest cotton mill** (in continuous use since 1827), the TENNANT System works its modern magic on the famous floors in Exeter, N.H.

You see the results above. The *tennantized* area (right) is easily twice as bright as before. Yet mills tell us it costs about 50% less to get such results *today* than it did just 5 years ago.

Here's why. Improved Tennant techniques now make floors far brighter, more dirt-resistant. Result: you save 40% to 60% in manhours, buff only 1/5 to 1/10 as often as before, and get 4 times longer average life from newly developed floor seals.

*Write today; ask for estimate of NEW savings now possible in your mill.*

VERY LITTLE BUFFING is needed today to keep Exeter's historic floors bright. Mill was built shortly after War of 1812.

TENNANT
ESTABLISHED 1870

G. H. TENNANT CO.
2586 N. 2nd Street
Minneapolis 11, Minn.

FLOOR MAINTENANCE SYSTEM


## Personal NOTES ABOUT MEN YOU KNOW

*(Continued from page 32)*

on Luzon. Mr. Gates has six years of foreign service, having managed a Firestone Textiles plant in Argentina.

Fontaine Converting Works, Martinsville, Va., announce the appointment of **Al Sasseen** as resident manager, succeeding **Walter Knoepfel** who joined Waumbec Mills in Manchester, N. H. Mr. Sasseen had been associated with Bishopville (S. C.) Finishing Co., division of Reeves Bros. **Ralph W. Ward** and **Ray Sweet,** both formerly with Richmond (Va.) Piece Dye Works have assumed the dyer assignments, and John A. Stokes has rejoined the firm as head finisher.

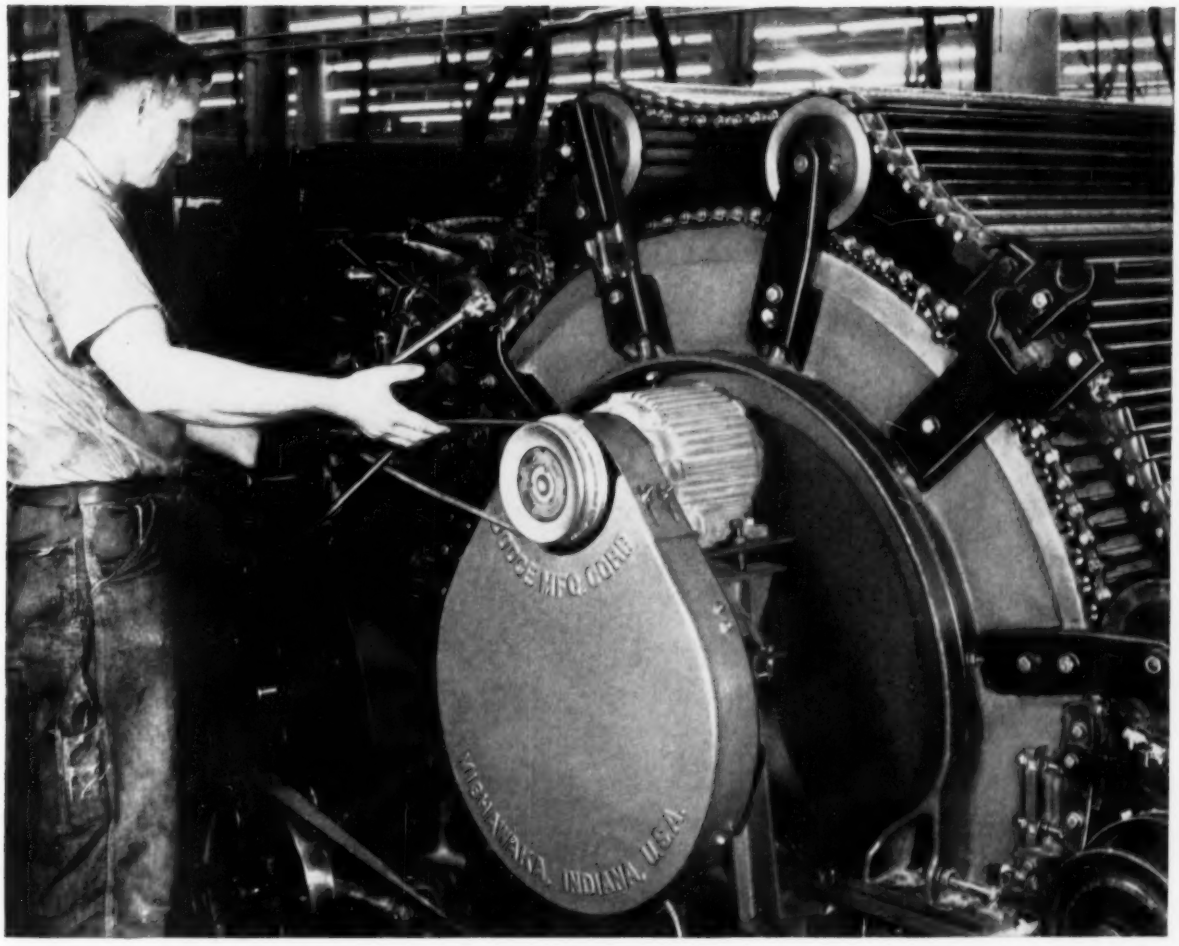
Berkshire Hathaway, Inc., Providence, R. I., announces the promotion of **Rodman C. Kelly** and **James E. Santon III** to divisional superintendents. **George M. Proulx,** formerly with the now closed York Mills of Bates Manufacturing Co., Saco, Maine, has joined Berkshire as assistant to **Harold C. Kelley,** general superintendent.

Lehigh Spinning Co., Allentown, Pa., has announced the election of **Dale (Doc) S. Chamberlain** as vice-president. Mr. Chamberlain, in charge of sales, has been associated with Lehigh since 1952.

Recently retired as president of Elmvale Worsted Co., and Elmvale Dye Works, Pittsfield, Mass., was **Bertram W. Spencer.** Succeeding Mr. Spencer is **Carey R. Kinney,** treasurer, who is in turn succeeded by his son, **Carey T. Kinney. Walter N. Cooper** has been elected to the newly created post of vice-president, and **Owen J. Callahan** is new plant superintendent. Mr. Spencer is retaining his office as vice-president and director of Spencer Worsted Co., Pawtucket, R. I.

**Thomas Zarello** is president of the Palmer Dyeing Corp., Paterson, N. J., a new dyeing and finishing firm occupying a portion of the premises of the former Peerless Finishing Corp., of which Mr. Zarello was president. **Barney Fire,** who was a partner in Peerless, is secretary of Palmer. **Sidney Winestein** and **Sam Rose,** who were salesmen for Peerless, have purchased an interest in the new

*(Continued on page 40)*




# INDIVIDUAL CARD DRIVE GIVES SOFT STARTS

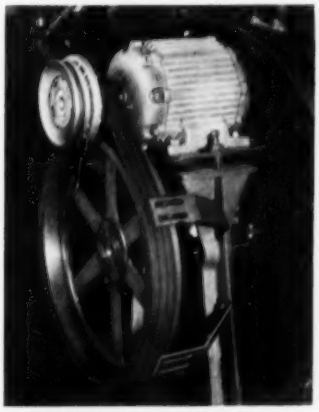
## ...ACCELERATES QUICKLY TO FULL SPEED

## ...AVOIDS EXCESSIVE STRAIN

Flexidyne, heart of this new complete Card Drive by Dodge, picks up the load smoothly... protects machinery and motor against shock and overload . . . delivers 100% efficiency during running cycle. Flexidyne, *the Dry Fluid Drive,* eliminates need for high torque motors and expensive controls, saves power, provides a new and better way to drive textile machines.

Note the special aluminum pulley mounted on Flexidyne housing, enabling quick, convenient operation of stripper. Pedestal has adjustable motor base to control tension on V-belts. You should have the full story of all the advantages of the new Dodge Flexidyne Card Drive. Ask your local Dodge Distributor, or write us, for new illustrated Bulletin A-653.

**DODGE MANUFACTURING CORPORATION**
**3500 Union Street, Mishawaka, Indiana**



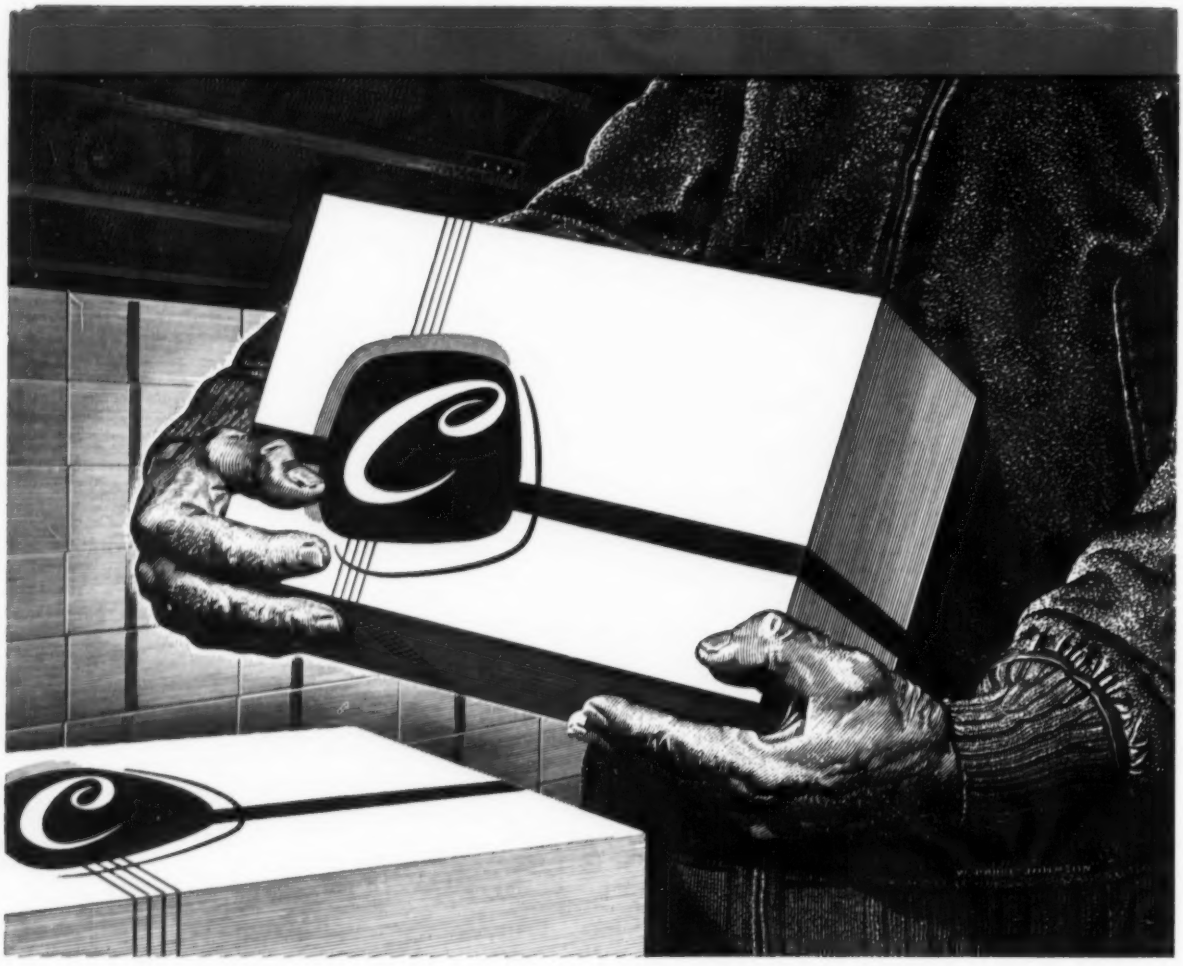
**NEW! FLEXIDYNE CARD DRIVE**

***A complete package, ready to install.***

- **Flexidyne, keyed to motor shaft**
- **Pedestal, supporting motor**
- **V-flat drive**
- **Aluminum stripper pulley**
- **Aluminum guard**

**DODGE**
*of Mishawaka, Ind.*

**CALL THE TRANSMISSIONEER,** your local Dodge Distributor. Factory trained by Dodge, he can give you valuable assistance on new, cost-saving methods. Look for his name under "Power Transmission Machinery" in your classified telephone directory, or write us.



# TOO ATTRACTIVE TO DROP

*Damage claims can often be reduced without extra cost... simply by improving the appearance of your container. Handsomely printed Gaylord boxes can make your product seem "special"... encourage careful handling by truckers and warehousemen everywhere.*

*For a box to make your product more impressive... to assure "first-class" handling... call your nearby Gaylord office.*

Gaylord Boxes

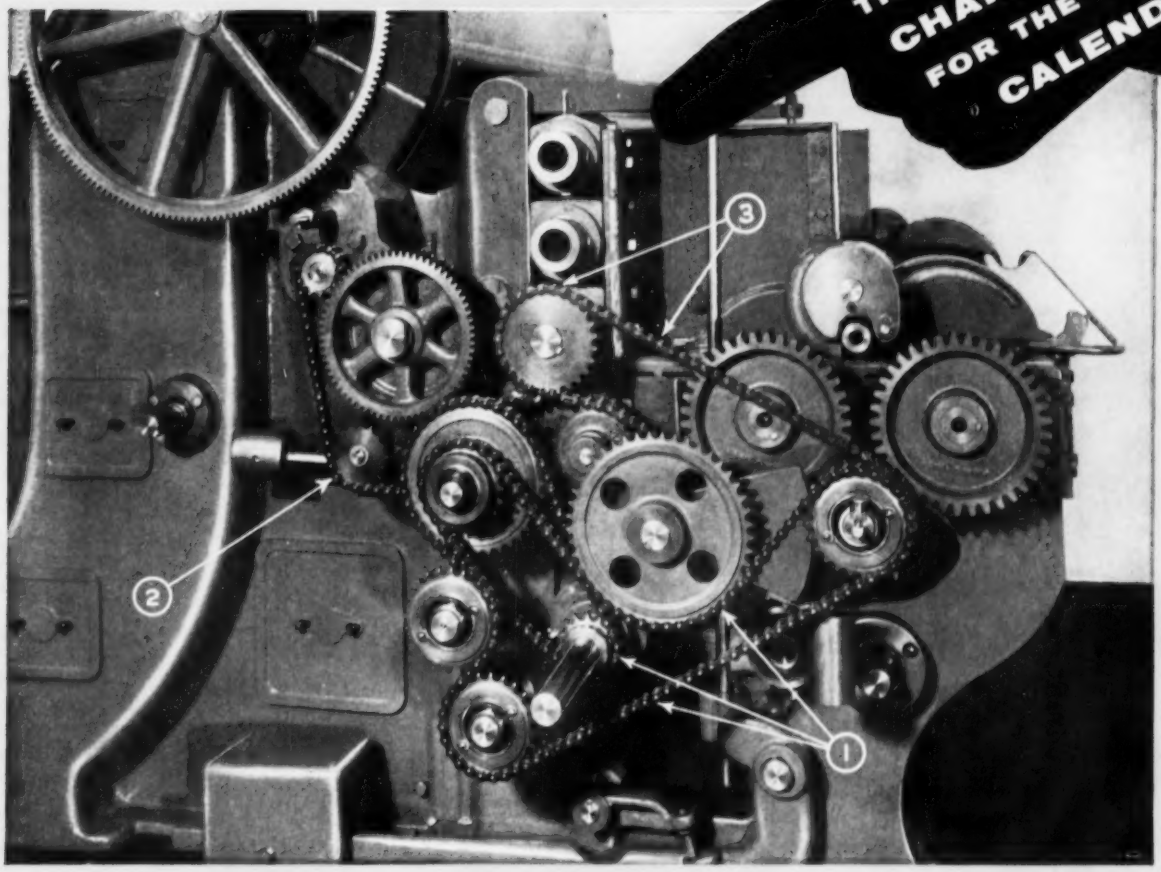
CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

GAYLORD CONTAINER CORPORATION ★ ST. LOUIS

DIVISION OF CROWN ZELLERBACH CORPORATION

# Need New Pickers?

THE COMPLETE CHAIN DRIVE FOR THE CALENDER




**1** The chain drive to replace the old 14/76-tooth gear drive. A silent drive of great flexibility.

**2** The chain drive from the vertical calender rolls to the draw rolls and screens. A simple, silent drive which provides accurate control of the draft between the screens and draw rolls, and those rolls and the vertical calender rolls.

**3** The chain drive from the vertical calender rolls to the fluted rolls. A silent flexible drive permitting close control of the draft between the vertical and the fluted rolls.

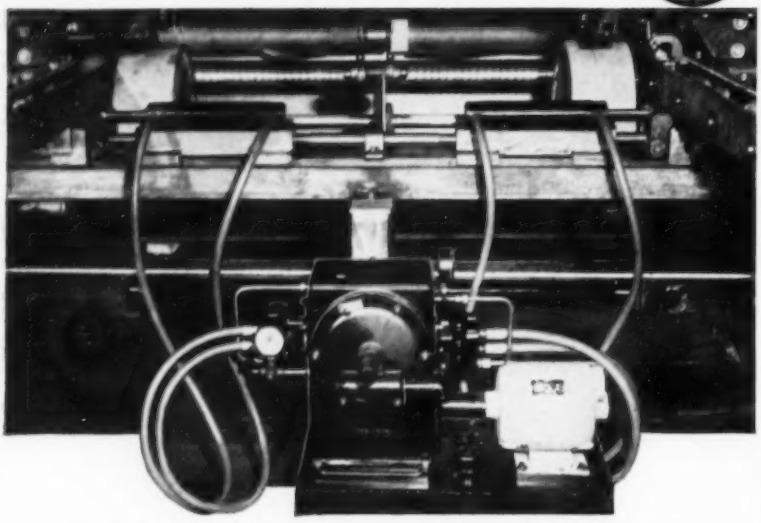
Note also the roller, on Oilite bearing, which holds the calender rack in place. This replaces the old shoe. The calender rack cross-shaft is on ball bearings—no binding!

**AldricH MachinE WorkS**

Greenwood, South Carolina

# Askania Regulator Company NEWS

***Automatic Cloth Guides for***
**TENTER FRAMES, LABEL MARKERS, TUBERS and EXAMINERS**



## *PRODUCE MORE AT LOWER COST!*
## New Askania Application Bulletin Shows HOW

ASKANIA'S new REGULATOR APPLICATION BULLETIN NO. 22.1 is now off the press and available to the textile industry. It will be furnished upon request to anyone interested in specific details concerning the application of ASKANIA Automatic Cloth Guides to Tenter Frames of all types ...to Tubing and Examining Machines...to Label Marking Machines.

It will explain how the Cloth Guide automatically handles any cloth, including flimsy lace, delicate silks, coarse mesh cloth, synthetics, *without contact with the cloth.*

***WELL ILLUSTRATED***—You'll find the above illustration showing the Askania Automatic Cloth Guide Control applied to a tentering frame typical of the 11 special photos and drawings used to provide the type of information you need to evaluate your own cloth guide potentials.

***IMPORTANT FACTS***—*For instance, Bulletin No. 22.1 contains the answer to these questions:*

1. How ASKANIA controls assure clipping, pinning closer to the selvage edge.
2. How the controls can be quickly and easily installed on new or existing machines by any competent mill mechanic.
3. How the operator is freed to examine the cloth.
4. Why the controls react to the flimsiest material with instant speed and powerful force on even the heaviest tenter frames.

***MODEL SELECTION***—Get full information on ASKANIA Cloth Guide Models and how to select the most economical unit for your own use. For your personal copy, write today to Askania Regulator Co., 260 E. Ontario Street, Chicago, Illinois.

**ASKANIA REGULATOR COMPANY**
**"CONTROLS FOR INDUSTRY"**
HYDRAULIC, ELECTRONIC CONTROLS & SERVOS, GENERAL SYSTEMS, ENGINEERING & COMPUTER SERVICE, VALVE ACTUATORS & CYLINDERS

A SUBSIDIARY OF GPE


## Personal NOTES ABOUT MEN YOU KNOW

*(Continued from page 36)*

firm and are vice-president and treasurer, respectively.

Philip L. Sheerr & Sons, Philadelphia, Pa., announce that **Joseph Axelrod** has joined the firm as manager of its main plant, Arms Textile Manufacturing Co., Manchester, N. H. Mr. Axelrod was formerly with M. Lowenstein & Sons' Wamsutta division.

Bachmann-Uxbridge Worsted Co., Uxbridge, Mass., a division of Amerace, announces that **Harry S. Stern, Jr.,** has been named vice-president in charge of all manufacturing. **Albert E. Otto,** with Uxbridge from July, 1931, to September, 1954, has rejoined the firm as general manager of the woolen division.

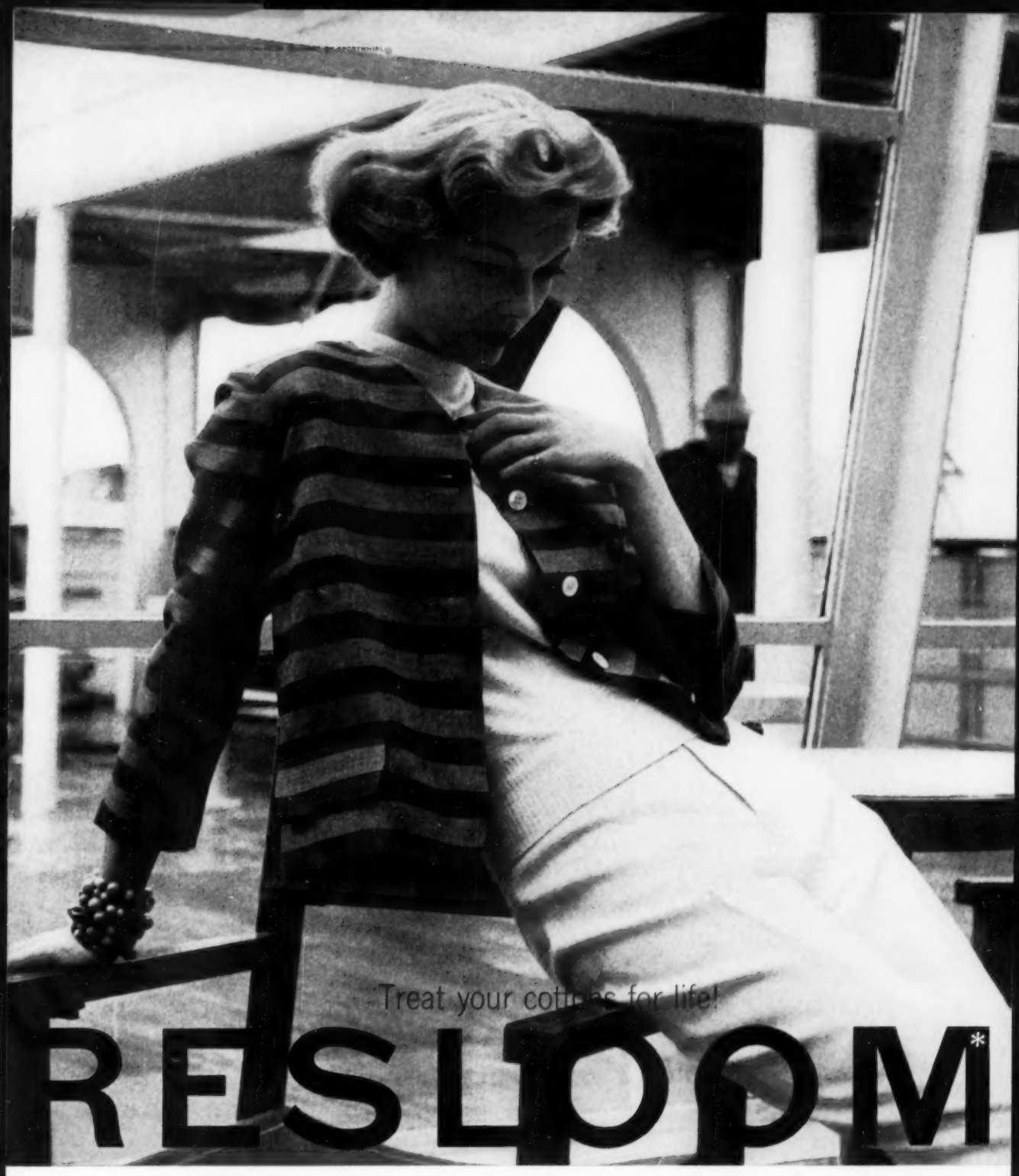
Personnel changes in the woolen and worsted division of J. P. Stevens & Co., Inc., are as follows: **Robert Dinan,** formerly superintendent of the Nathaniel plant, Dublin, Ga., has become superintendent at the Worumbo plant, Lisbon Falls, Me., succeeding **J. N. Marshall** who has resigned. Replacing Mr. Dinan in Dublin, is **Joseph D. Beam, Jr.,** formerly at the Hannah Pickett plant at Rockingham, N. C.

President of a new firm, Carolina Yarn Processors, Inc., is **Albert F. W. Jaeger** of Coventry, R. I. Other officers of the firm are **Dr. Albert Jaeger,** Warwick, R. I., vice-president; **Walter C. Sturrock,** Cranston, R. I., assistant treasurer; and **Lee A. Worrell,** Providence, R. I., secretary. The firm purchased the plant at Tryon, N. C., formerly occupied by Southern Mercerizing Co.

New president of La France Textiles, Ltd., Woodstock, Ont., Canada, is **George B. Kimpton** who has resigned as general manager and director of Slingsby Manufacturing Co., Brantford, Ontario, Canada. Mr. Kimpton succeeds Paolino Gerli, chairman of La France Industries, as president of the Canadian company.

C. H. Masland & Sons, Carlisle, Pa., announce two new mill appointments as follows: **Robert Morris** has taken over the production planning

*(Continued on page 44)*




Monsanto E-50 cyclic urea resin gets inside fibers . . . won't wash out!

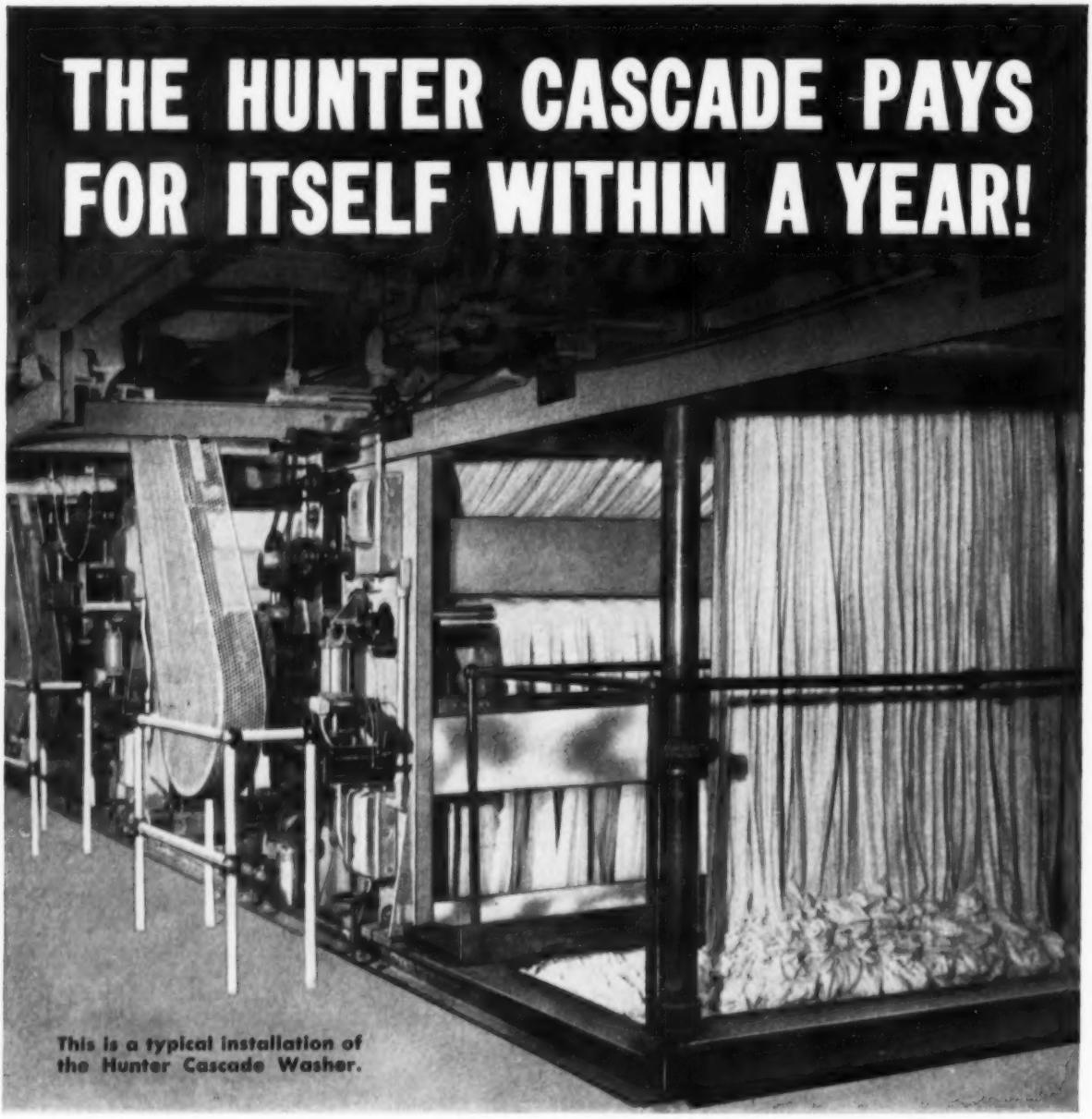
MONSANTO

*RESLOOM: REG. U. S. PAT. OFF.

Resloom E-50 doesn't coat the fabric. This cyclic urea resin "joins" it, penetrating into the fibers—actually modifying fiber characteristics. Repeated laundering can't shake the finish loose. Resloom-treated cottons require little ironing, stay crush resistant, won't shrink, sag, or stretch. Resloom finishes can be accurately controlled to create a wide variety of hand—from soft and full to firm and crisp.

Call in Monsanto for expert counsel on how to "treat your cottons for life." In addition to Resloom E-50, Monsanto also supplies melamine finishing resins, tradenamed Resloom HP and M-75. Also AC Catalysts for stepping up curing efficiency. For technical bulletin and experimental samples, write Monsanto Chemical Company, Plastics Division, Room 1889, Springfield 2, Massachusetts.

# THE HUNTER CASCADE PAYS FOR ITSELF WITHIN A YEAR!



**This is a typical installation of the Hunter Cascade Washer.**

It is possible for the Hunter Cascade Continuous Washer to give you such remarkable savings in labor, water, floor space, and capital investment that it will pay for itself within a year. Consider these savings:

**LABOR** — The Hunter Cascade Washer can be operated by two men per shift at speeds up to 60 yards per minute.

**WATER** — The Hunter Cascade Washer requires about one-sixth as much water as dolly washers. You save on water, on steam to heat it, on power to pump it, and on the necessary softener, soap and alkali for scouring.

**FLOOR SPACE** — The Hunter Cascade saves valuable floor space. In some installations, savings are as high as 50%.

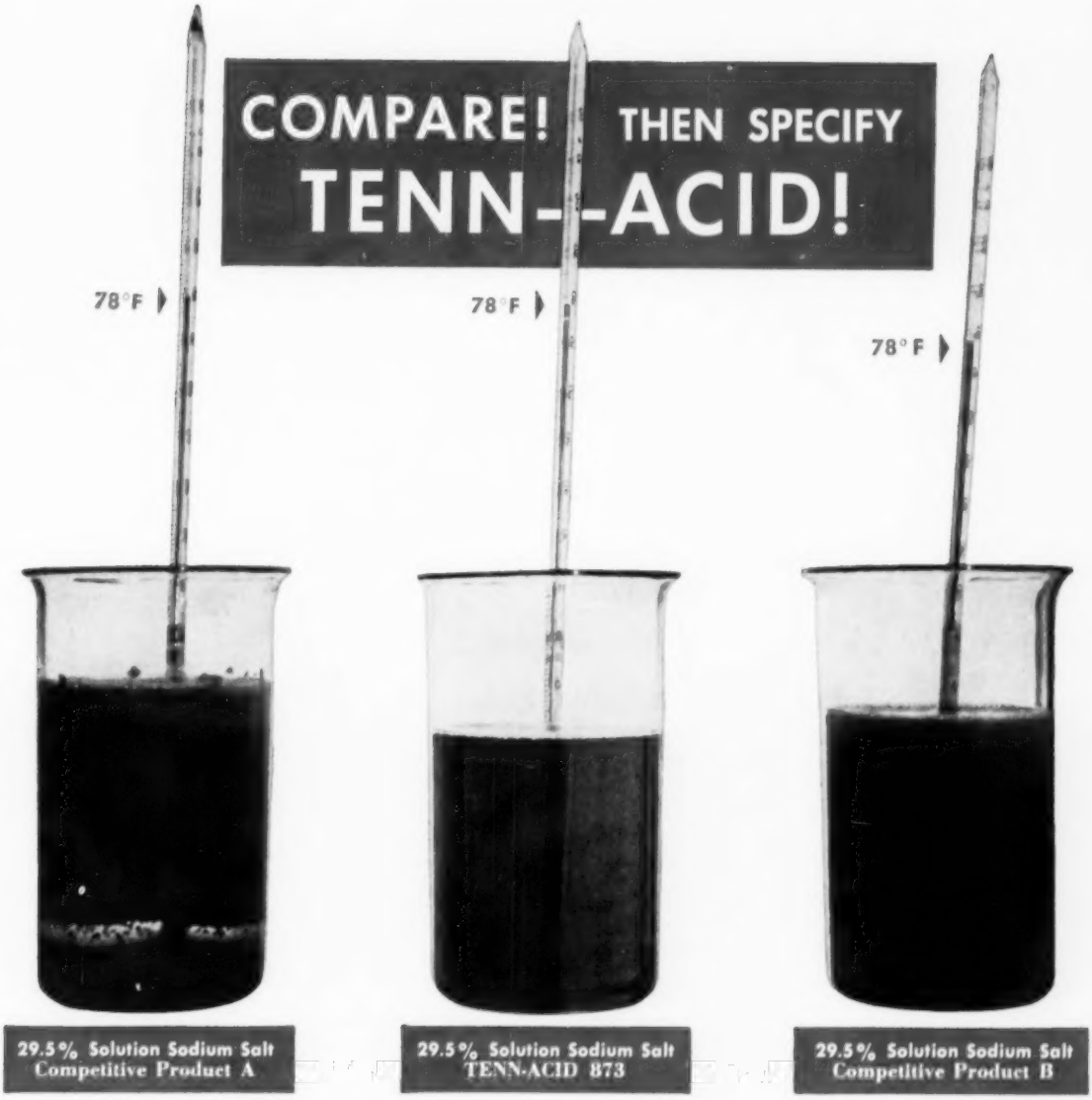
**CAPITAL INVESTMENT** — The Hunter Cascade costs far less than other continuous washers. Because of its low initial cost and outstanding operating savings, *small mills producing less than 500 pieces can now afford continuous washing.*

The Hunter Cascade can pay for itself quickly in your mill. Write today for new Bulletin . . . and get specific details.

# JAMES HUNTER

JAMES HUNTER MACHINE COMPANY • NORTH ADAMS, MASSACHUSETTS
SOUTHERN SERVICE PLANT: JAMES HUNTER, INCORPORATED • GREENVILLE, S. C.

# COMPARE! THEN SPECIFY TENN-ACID!




**TENN-ACIDS** are base detergent acids that can be neutralized to yield concentrated, low cloud point Inorganic or Organic Salts which function as highly effective detergents and wetting agents for natural and synthetic fibers.

## CONDITIONS OF TEST

**This is an unretouched photograph showing actual tests which resulted when TENN-ACID 873 was compared to the competitive products of two of the largest surfactant suppliers in the country.**

Investigate the merits of these new inexpensive raw materials designed specifically for the Textile Industry.

Send me further information on **TENN-ACIDS**

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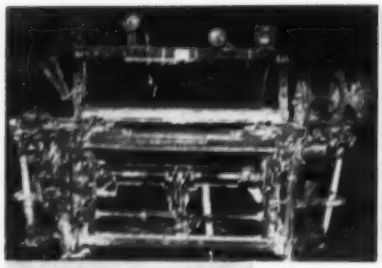
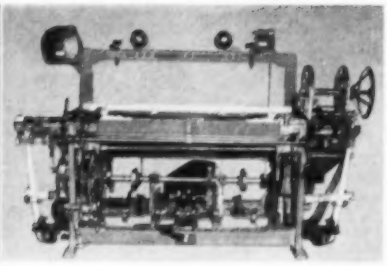
MARKETING RESEARCH AND DEVELOPMENT DEPARTMENT

TENNESSEE TC CORPORATION

1330 West Peachtree—Suite 500—Atlanta, Ga.
Phone: TRinity 5-6616



Before



After

Overhauling Service . . . Includes

Stripping Looms

Steam Cleaning of parts and frame

Painting

Replacing Unserviceable Parts

Correct Assembly

Thorough Testing

**Yeomans**

**Overhauls**
**Widens**
**Narrows**
**Motorizes**
**Modernizes**
**Rebuilds**

*looms*

**in your mill or in our plant**

**For less than you can do it yourself**

Mill after mill has found that it costs less when Yeomans does the job. Savings from 25% to 50% are not uncommon.

Yeomans large staff of trained and experienced specialists, plus careful supervision, assures new loom performance on every job. Properly planned work adds an extra bonus in reduced down time.

Loom work "do it yourself" is expensive. We will be glad to quote prices on your work so that you can make your own comparisons.

**We Build Our Future In Every Loom**

**Yeomans,**
INCORPORATED
**P. O. Box 1661, Spartanburg, S. C.**


## Personal NOTES ABOUT MEN YOU KNOW

*(Continued from page 40)*

and control department, and **Adrian Shoemaker** has assumed duties as assistant to the general manager. Mr. Morris previously headed the systems and procedures department, while Mr. Shoemaker was department head of production planning.

**Norman Brissette** replaces Daniel Currier as boss carder at Millstone Spinners, Inc., Hillsboro, N. H.

Newly elected officers of the Underwear Manufacturers Executives Association for 1958 are: chairman—**Charles T. Finney,** vice-president, Utica-Flagg Co., Florence, Ala.; vice-chairman — **H. L. Fredericksen,**

L to r: Messrs. Ross, Finney, and Fredericksen.

Coopers, Inc., Kenosha, Wis.; secretary-treasurer—**William C. Ross,** assistant production manager-operations, The William Carter Co., Needham Heights, Mass.

At the annual meeting of the office executives division of the Cotton Manufacturers Association of Georgia, **J. C. Woods,** Riegel Textile Corp., Trion, Ga., was elected chairman, succeeding **L. C. Cahill,** Coats & Clark, Inc., Albany, Ga.; **H. A. Fuller,** Swift Manufacturing Co., Columbus, Ga., was named vice-chairman, and **Frank L. Carter** was reelected secretary.

The Fiber Society, Inc., has announced as its newly elected president **Dr. Wayne Sisson** of American Viscose Corp., Marcus Hook, Pa., who succeeds **Dr. Burt Johnson,** National Cotton Council, Memphis, Tenn. Named vice-president to replace Dr. Sisson was **S. Jack Davis** of the Chemstrand Corp., Decatur, Ala. **Hugh M. Brown,** textile consultant, Clemson, S. C., was reelected treasurer, and **Julian Jacobs,** Textile Research Institute, was elected secretary, succeeding **John T. Wigington.**

*(Continued on page 50)*

# what's inside the Floaxial?

What makes it better than the great Fairbanks-Morse scales of the past? Maybe you're not curious. Maybe you're satisfied just so long as it weighs ever more precisely, is able to stand even more abuse, and practically does your thinking for you in the process of coming up with the right answer.

But if you're mechanically minded and would be interested in how all this is accomplished, the story of the inner workings is told in the new Floaxial bulletins which are yours for the asking.

The portable and bench models are self-contained . . . portables are easily moved on rubber-tired wheels. Self-contained warehouse scales equipped with either pillar or cabinet type Floaxial dial are built to set on floor or installed with platform flush with floor. Cabinet dials have the exclusive F-M direct-reading feature that enables the weighman to read the dial right at the point of the indicator without mental calculation—regardless of the number of drop weights applied. Cabinet dials are available for use with many types of lever systems. Fairbanks, Morse & Co., Chicago 5, Illinois.

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*a name worth remembering when you want the BEST*

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Please send me the Floaxial Scale Bulletin specified below.

- ☐ Bench and Portable Dial
- ☐ Warehouse Dial
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*Name* _____

*Firm* _____

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*City and State* _____

# reduce wear, lengthen life of spindle bearings

Spinesso is a premium-grade lubricating oil for both spinning and twister spindle bearings. Its exceptionally high oxidation stability affords maximum bearing protection – and extends the time between lubrications considerably. Spinesso's high resistance to oxidation inhibits the formation of dark, sludge-like deposits that cause friction in the bolster – and stain yarn.

Spinesso is specially processed to provide an extra measure of protection against wear and to materially reduce rusting and pitting. Thus the problems most frequently encountered in high-speed bearing operations in humid textile mill atmospheres are minimized. Spinesso gives positive protection at all times – even at start-up when immediate and effective lubrication is essential.

Textile mills that have switched to Spinesso report *cleaner, longer-lasting spindle bolsters and blades—with less frequent lubrication.*

Spinesso is available in *three* viscosity grades. Get the whole story on this fine product . . . contact your nearest Esso Standard Oil Co. Division Office: Boston; Pelham, N. Y.; Elizabeth, N. J.; Bala-Cynwyd, Pa.; Baltimore; Richmond; Charlotte; Columbia, S. C.; Memphis; New Orleans.

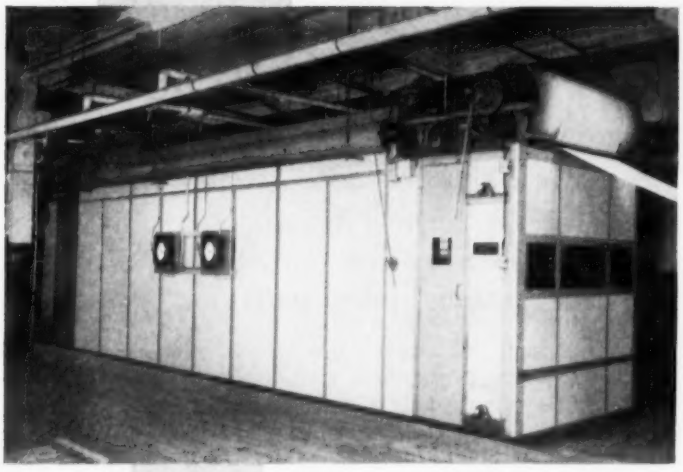
FOR BETTER RESULTS

**SPINESSO** Esso

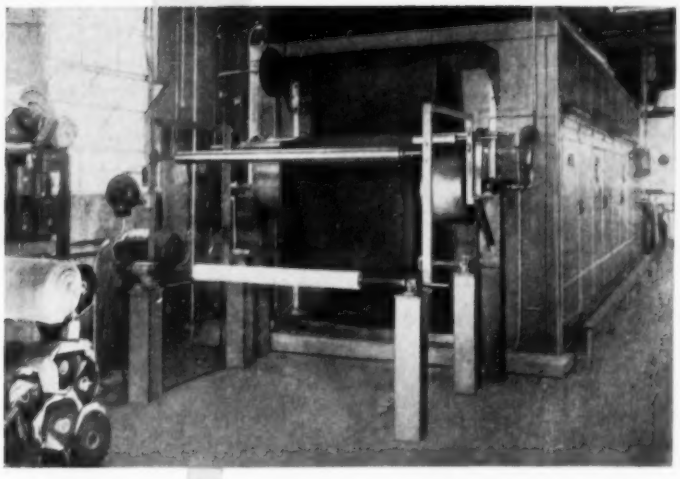
SPINESSO—Reg. U. S. Pat. Off.

PETROLEUM PRODUCTS

# uniform textile curing at LOWER COSTS!



Proctor Loop Curer



Proctor Roller Curer

**Recent improvement in design and construction make these high-capacity Proctor loop and roller curers unsurpassed for uniformity of product and lowered processing costs.**

**Greatest Curing Uniformity** . . . the result of perfectly controlled temperatures and Proctor's Balanced Air Circulation . . . there's no shading or migration of finish or color.

**Maximum Capacity—Minimum Power** . . . are features directly traceable to the careful design of the air circulation system . . . new turbine type fans directly connected to the motors boost output, lower power consumption and eliminate belt and coupling maintenance.

**Flexibility of Operation** . . . the standard design comes in a range of widths and lengths to suit both large and small plants . . . handles a complete line of fabrics . . . always under perfect control . . . no stretch . . . readily adaptable to in-range operation.

**Simplified Installation** . . . follows from Proctor's expert mechanical design . . . reduced installation time means less downtime and lower costs for you.

**Improved Design** . . . is the product of Proctor's long experience in supplying machinery to the textile industry . . . Proctor *knows*, and *supplies* what textile men *need* . . . in rugged, dependable, long-lasting and economical equipment.

**Write today for the latest bulletins describing Proctor equipment for the textile field.**

AUTOMATIC BLENDING SYSTEMS • WEIGHING FEEDS • PICKERS • SHREDDERS • BALE BREAKERS • SYNTHETIC CARDS • GARNETTS • DRYERS FOR FIBROUS MATERIAL • YARN DRYERS • HOT AIR SLASHER DRYERS • CLOTH CARBONIZERS • ROLLER DRYERS AND CURERS • LOOP AGERS FOR PRINT GOODS • TENTER HOUSINGS • OPEN-WIDTH BLEACH SYSTEMS FOR WOVEN FABRICS • MULTIPASS AIRLAY DRYERS • NYLON SETTING EQUIPMENT • CON-O-MATIC WASHERS • CONTINUOUS BLEACH SYSTEMS FOR TUBULAR KNITS • EQUIPMENT FOR PRODUCING "SEDMANIZED" ® SHRUNK-TO-FIT FABRICS • CARPET DRYERS

Proctor

**PROCTOR & SCHWARTZ, INC.**

Philadelphia 20, Pa.

MANUFACTURERS OF TEXTILE MACHINERY AND INDUSTRIAL DRYING EQUIPMENT

# *What you should know*

### *What is CMC Warp Size?*

CMC Warp Size is a water-soluble product made from cellulose, and is a true film-forming material which gives a smooth, tough, flexible surface on warp yarn with a minimum add-on.

### *Why use CMC Warp Size?*

Starch, used traditionally, is a good sizing agent. Why, then, consider a change to CMC Warp Size? Because:

**1. It reduces steam pollution.** CMC Warp Size is sufficiently resistant to bacterial attack so that it adds virtually nothing to the overall B.O.D. (biological oxygen demand) resulting from desizing wastes. In mixtures with starch the protection of the CMC Warp Size film acts to retard oxidation of the starch. In such mixtures the actual B.O.D. is suppressed to an amount below that which would be expected from the starch alone.

**2. Smaller amounts of size are required.** Formulas containing two parts of starch and one part of CMC Warp Size are being successfully used at an add-on of 7.0 to 7.5% of the yarn weight. Excellent adhesion and superior film-forming properties make such a low add-on possible.

**3. It can be desized without enzymes.** Since CMC Warp Size is soluble in cold water, it can be easily washed off without costly and time-consuming enzyme desizing. Mixtures with starch containing two parts of starch and one part of CMC Warp Size can be removed by a mild alkaline wash.

**4. It forms more uniform solutions.** CMC Warp Size is odorless and soluble in cold water. Viscosity changes little on prolonged stirring; solutions are stable, leading to greater flexibility in scheduling. It does not mold, ferment, or form skins. Equipment is more easily cleaned.

**5. It allows lower weave-room humidities.** CMC Warp Size has been successfully employed at humidities ranging from 75 to 85%. Lower humidity increases to weave-room comfort, cleanliness, and ease of maintenance.

**6. It reduces shedding.** High film adhesion and flexibility of CMC Warp Size greatly reduces the amount of size powdering at the split rods of the slasher. It also reduces shedding of size and fibers during weaving, thereby lowering loom-cleaning time.

### *How much can CMC Warp Size reduce stream pollution?*

In many finishing plants, stream pollution due to starch desizing operations accounts for 50-70% of the total sewage load. In a starch-CMC Warp Size mixture the B.O.D. is theoretically proportional to the amount of starch present. In actual mill practice the suppressing effect of CMC Warp Size in a 2-to-1 starch-CMC Warp Size mixture has resulted in a 70-85% reduction in B.O.D. resulting from desizing.

### *How does CMC Warp Size affect weaving performance?*

In actual mill operations starch-CMC Warp Size compositions have been shown to be equivalent to, or superior to, starch. With low-sley fabrics, reduction in warp stops and increases in weaving efficiencies were most marked.

The following tables show some of the improvements in weaving performance which have been observed in actual mill experience.

### *How does the cost of CMC Warp Size compare with regular Starch?*

The cost of the starch-CMC Warp Size combination is comparable to that of straight starch, due to the lower add-on necessary. Savings are also realized in the elimination of enzyme desizing and reduced water and steam requirements. The usual starch formula, including cost of additives, costs about 8.5¢ per pound of size. Starch-CMC Warp Size combination costs about the same as regular starch when used at the suggested add-on of 7.0-7.5%. This is shown in detail in Table 4. These cost computations were based on the equation:

$$\text{Cost/100 lbs. of Yarn} = \frac{100\ (\text{Total Extract-Blank})}{100 - \text{Total Extract}} \times \text{Cost/lb. of Size using current market prices.}$$

# about CMC Warp Size

**TABLE 1**

REDUCTION IN WARP STOPS ACHIEVED WITH CMC WARP SIZE

| Study* No. | 1,000 Picks Studied | WARP STOPS** Starch | 2:1 Starch: CMC Warp Size | Decrease in Warp Stops |
|---|---|---|---|---|
| 1 | 23,600 | 0.029 | 0.024 | 17% |
| 2 | 27,100 | 0.028 | 0.022 | 21% |
| 3 | 15,900 | 0.025 | 0.025 | — |
| 4 | 13,600 | 0.027 | 0.025 | 7% |
| 5 | 8,200 | 0.035 | 0.027 | 23% |
| 6 | 7,200 | 0.035 | 0.031 | 11% |

*Studies 1 through 5: 21s carded yarn, 128-count wide sheeting; Starch add-on: 12.5%. Starch: CMC Warp Size add-on: 8.0%
Study 6: 34s combed yarn, 180-count wide sheeting; Starch add-on: 13.5%. Starch: CMC Warp Size add-on: 8.5%

**Stops per 1,000 picks per 1,000 ends. Includes only those warp stops which could be affected by size, i.e., front stops, back stops, matups, and loose ends.

**TABLE 2**

RELATIVE EFFICIENCIES WITH STARCH AND 2:1 STARCH: CMC WARP SIZE AT 85% RELATIVE HUMIDITY

| Sized With | No. of Looms Checked | RELATIVE EFFICIENCIES* 1st Week | 2nd Week |
|---|---|---|---|
| Starch | 65 | 98.4 | 98.7 |
| 2:1 Starch: CMC Warp Size | 53 | 98.6 | 99.8 |

*Per cent of established standard efficiency:
Starch add-on: 13.0-13.5%
2:1 Starch: CMC Warp Size add-on: 8.0-8.5%
Fabric woven: 180-count wide sheeting using 34s combed yarn.
Checks made over 2-week period when CMC Warp Size was first being introduced into mill.

**TABLE 3**

RELATIVE EFFICIENCIES WITH STARCH AND 2:1 STARCH: CMC WARP SIZE AT 80% RELATIVE HUMIDITY

| Test No. | 100% STARCH No. of Looms | Relative Efficiency* | 2:1 STARCH: CMC WARP SIZE No. of Looms | Relative Efficiency* |
|---|---|---|---|---|
| 1 | 23 | 0.993 | 35 | 0.986 |
| 2 | 12 | 0.958 | 29 | 0.990 |
| 3 | 53 | 1.020 | 70 | 1.050 |
| 4 | 14 | 0.972 | 27 | 1.005 |
| Average | 102 | 1.000 | 161 | 1.018 |

*Per cent of established standard efficiency:
Starch add-on: 13.0-13.5%
2:1 Starch: CMC Warp Size add-on: 8.0-8.5%
Fabric woven: 180-count wide sheeting using 34s combed yarn.

**TABLE 4**

WARP SIZE FORMULATION COSTS

| Cost/100 lbs. of Unsized Yarn At Add-on* Of: | SIZE FORMULA Regular Starch | 2:1 Starch: CMC Warp Size | 100% CMC Warp Size |
|---|---|---|---|
| 3.0 | | | 1.09 |
| 3.5 | | | 1.27 |
| 4.0 | | | 1.46 |
| 4.5 | | | 1.65 |
| 5.5 | | 1.01 | |
| 6.0 | | 1.11 | |
| 6.5 | | 1.21 | |
| 7.0 | | 1.31 | |
| 7.5 | | 1.41 | |
| 8.0 | | 1.51 | |
| 8.5 | | 1.61 | |
| 9.0 | | 1.72 | |
| 10.0 | | | |
| 11.0 | 1.10 | | |
| 12.0 | 1.21 | | |
| 13.0 | 1.33 | | |
| 14.0 | 1.45 | | |

*Add-on is in % of sized yarn.

### *How can you adapt CMC Warp Size to your process?*

Working in collaboration with a Hercules technical representative is the simplest and easiest way to develop a program that will make best use of all the advantages offered by CMC Warp Size. He's as close to you as your telephone. Just call or write:

*Virginia Cellulose Department*

**HERCULES POWDER COMPANY**

INCORPORATED

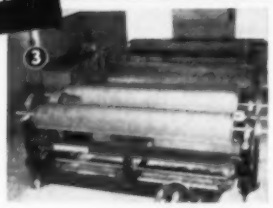
*900 Market Street, Wilmington 99, Delaware*

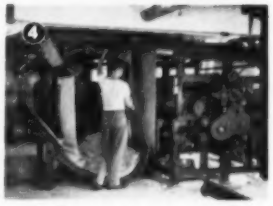
VI56-2

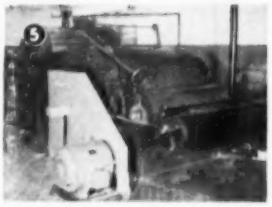
# D&F "Coordinated Production"

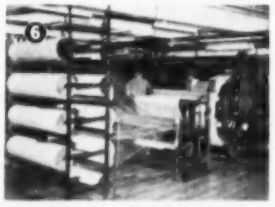
## . . . Proves Profitable for Packard Mills

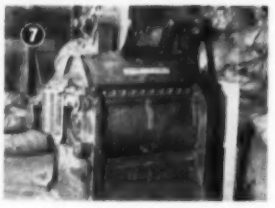












**At Packard Mills in Webster, Massachusetts, where quality rates high, Packard men have learned over the years to count on D&F "Coordinated Production" machinery to make every possible phase of production profitable.**

In producing fine cloth, each of these D&F products plays an important part: (1) D&F Spinning Frames, (2) D&F cards, (3) D&F Traverse Grinders, (4) D&F Nappers, (5) D&F Pickers, (6) D&F Dressing Equipment, (7) D&F Dusters, D&F Spare Parts, D&F Supplies of Condenser Tapes & Aprons and Card Clothing. Each contributes to high quality, production and efficiency — when properly specified and used. The Advice, Counsel, and Service of D&F Technicians help to fulfill these conditions.

**This is the D&F "Coordinated Production" Package Plan for textile mills. Mills following this plan can always rely on Davis & Furber (as the one overall source of supply) to help solve mill production problems.**

New mills being planned, or existing mills considering expansion, are taking advantage of the D&F "Coordinated Production" Package Plan. You are invited to investigate it in whole or in part. There is no obligation.

**Begin with a request for a D&F "Coordinated Production" in-the-mill survey. The confidential study and analysis that results often produces recommendations which can tie D&F right into your production requirements. At the same time, D&F will recommend any accessories, spare parts or supplies that may be needed.**

For *new-plant quality and yield*, for modernization of existing equipment, for properly specified accessories and supplies, for production that can deliver profits — call on Davis & Furber, North Andover, or Charlotte.

1832 — "Our 125th Year" — 1957

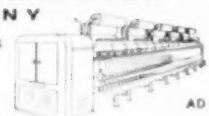
SERVICE TO THE TEXTILE INDUSTRY

# DAVIS & FURBER

MACHINE COMPANY

TEXTILE MACHINERY DESIGNERS AND MANUFACTURERS

North Andover, Mass.
Charlotte, North Carolina



AD 12-5

*Member — American Textile Machinery Association*

CARDS • SPINNING FRAMES • PREPARATORY MACHINERY • WARP DRESSING MACHINERY • FINISHING MACHINERY
MACHINERY MODERNIZATION • ACCESSORIES, SUPPLIES, CARD & NAPPER CLOTHING, GARNET WIRE, TAPES & APRONS
SPARE PARTS • TECHNICAL SERVICE & CONSULTATION


## Personal NOTES ABOUT MEN YOU KNOW

*(Continued from page 44)*

Clemson, S. C., who has retired after serving the Fiber Society as secretary for the past 16 years. Mr. Wigington will serve on the governing council for three years. He stated as his reason for stepping out as an officer of the society the press of his duties as director of the technical service division of the American Cotton Manufacturers Institute. **Charles R. Stock,** American Cyanamid Co., Stamford, Conn., was elected to the council for three years.

### OBITUARIES

**Roy J. Beauregard,** section superintendent of bleaching and chemical control, Dan River (Va.) Mills finishing plant.

**Edward Bloom,** 90, a partner in the former silk manufacturing firm, Aronsohn & Bloom, Paterson, N. J.

**E. W. Braun,** 44, treasurer of Sheble & Wood Yarn Corp., Jenkintown, Pa.

**Col. M. D. Brown,** 75, chairman of the board of directors of Continental Mills, Inc., Philadelphia, Pa.

**William W. Butler,** 70, comptroller of the Atlanta Textile Machinery Co.

**George W. Campbell,** secretary-treasurer of McLean Co., Inc., High Point, N. C.

**Walter S. Finnell,** chairman of the board of Finnell System, Inc., Elkhart, Ind.

**William W. Fulp,** 46, a partner and secretary - treasurer of Wearmore Hosiery Co., Winston-Salem, N. C.

**Thomas J. Ligon,** 92, retired former head of the cotton department of Woodside Mills, Greenville, S. C.

**Edgar C. Martin,** 70, president of Hudson Narrow Fabrics Mills, Easley, S. C.

**John R. Mason,** 62, vice-president of Millville (N. J.) Manufacturing Co.

**John R. McConnell,** 69, former vice-president and director of advertising of American Air Filter Co., Louisville, Ky.

**George L. Williams,** 53, vice-president and secretary of Swift Manufacturing Co., Columbus, Ga.

**Frank G. Weisbecker,** 54, head of Union Knitting Machine Co., Lansdale, Pa.

**Martin J. Witzel,** a supervisor for the Brookshire Knitting Mills, Inc., Manchester, N. H.

**William A. Wolhar,** 67, president of Consos, Inc., Charlotte, N. C.

# NOW!
## In Quick-Dissolving Non-Caking FLAKES

## SOLVAY ANHYDROUS U.S.P. *FLAKE* SODIUM NITRITE

Now available at no increase in price—anhydrous U.S.P. sodium nitrite in an exclusive time and labor saving *flake* form! For the first time you can get anhydrous sodium nitrite that will dissolve rapidly, as well as store without caking. This new SOLVAY product is now packed in 400-lb. fiber drums as well as 100- and 400-lb. steel drums and 100-lb. bags to meet your individual needs.

Write, or fill in coupon, for prices and the name of your nearest dealer.

***Inspection Sample Available—Check Coupon Below***

Allied Chemical

**SOLVAY PROCESS DIVISION**
ALLIED CHEMICAL & DYE CORPORATION
61 Broadway, New York 6, N. Y.

Please send me:
- ☐ Inspection sample of SOLVAY flake Sodium Nitrite.
- ☐ Prices and the name of my nearest dealer.

Name _____

Position _____

Company _____

Phone _____

Address _____

City _____ Zone _____ State _____ EN-11

SOLVAY ®

Sodium Nitrite • Caustic Soda • Calcium Chloride
Chlorine • Caustic Potash • Potassium Carbonate
Sodium Bicarbonate • Chloroform • Vinyl Chloride
Methyl Chloride • Ammonium Chloride • Methylene
Chloride • Cleaning Compounds • Hydrogen Peroxide
Ammonium Bicarbonate • Aluminum Chloride • Carbon
Tetrachloride • Monochlorobenzene • Para-dichlorobenzene
Ortho-dichlorobenzene • Soda Ash • Snowflake® Crystals

**Every plant has some areas where Corrosive Atmospheres deteriorate luminaires—**
**CAN CREATE SERIOUS HAZARDS LIKE THIS!**

# LUMINAIRE REPLACEMENT COSTS

## In plants where corrosive atmospheres are unavoidable

# NOW CUT AS MUCH AS 75%

**NEW, CORROSION RESISTANT LUMINAIRES, by Westinghouse, now made with stainless steel — brass and porcelain enamel outlast conventional luminaires 3, 4 and 5 times!**

Contaminating vapors, corrosive steam, excessive moisture — like those occuring in *virtually every* processing operation — can *ravage* the materials used in making most, common, industrial luminaires!

This *frequently* causes *exhorbitant* luminaire-replacement costs! — the constant threat of short-circuits! — the costliness of corroded substance dripping into product-in-process! — *even the danger of luminaires dropping into machinery — onto workers themselves!*

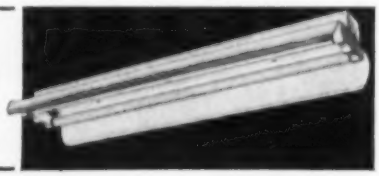
As a result, more and more companies have been installing Westinghouse Corrosion Resistant Luminaires — therby avoiding these unnecessary hazards! — and *reducing luminaire-replacement costs as much as 75%.*

These Westinghouse Corrosion Resistant Luminaires are made with end-plates of nickel-plated brass, stainless-steel hardware, porcelain-enameled channels and reflectors, heavy-duty brass-enclosed lamp-holders — with *all* components as *corrosion-free* as modern metals permit!

Your near-by Westinghouse Lighting Specialist is *thoroughly prepared* to survey *your* plant operations! — to recommend, "*squarely,*" *whether or not your company would benefit* from Corrosion Resistant Luminaires! *Call* him, or your Westinghouse Distributor, *today!* or write: Westinghouse Electric Corporation, Lighting Division, Edgewater Park, Cleveland, Ohio. It *may* save you *appreciable* amounts of money!

J-04424

**NEW! CORROSION RESISTANT LUMINAIRES**



**YOU CAN BE SURE...IF IT'S**

Westinghouse

# HARSHAW UVERSOFT "D"

**imparts soft hand with little reduction in moisture absorbency**

● UVERSOFT "D" is a cationic surface active agent which produces a full, soft hand with little, if any, reduction in moisture absorbency of the TREATED material. It can be exhausted from a long bath, and has an excellent retention in an aqueous system. UVERSOFT "D" provides a maximum economy in application and use.

UVERSOFT "D" is an outstanding anti-static agent. It should be considered for situations where the accompanying softening action is not objectionable.

Send for folder containing complete technical information.

**THE HARSHAW CHEMICAL COMPANY** ● 1945 East 97th St., Cleveland 6, Ohio

*Send me* TECHNICAL BULLETIN ON UVERSOFT "D"

My Name_____

Company Name_____

Street Address_____

City_____ Zone____ State_____

# NEUTRAL CYANINE GREEN GN EXTRA

C. I. 1078

For dyeing wool in union material where light and wash fastness are important.

For dyeing in combination with the neutral dyeing metal complex colors and chrome colors.

WOOL / NYLON / SYNTHETICS

Neutral · Acid · Metachrome
Top Chrome · Bottom Chrome

Reply to

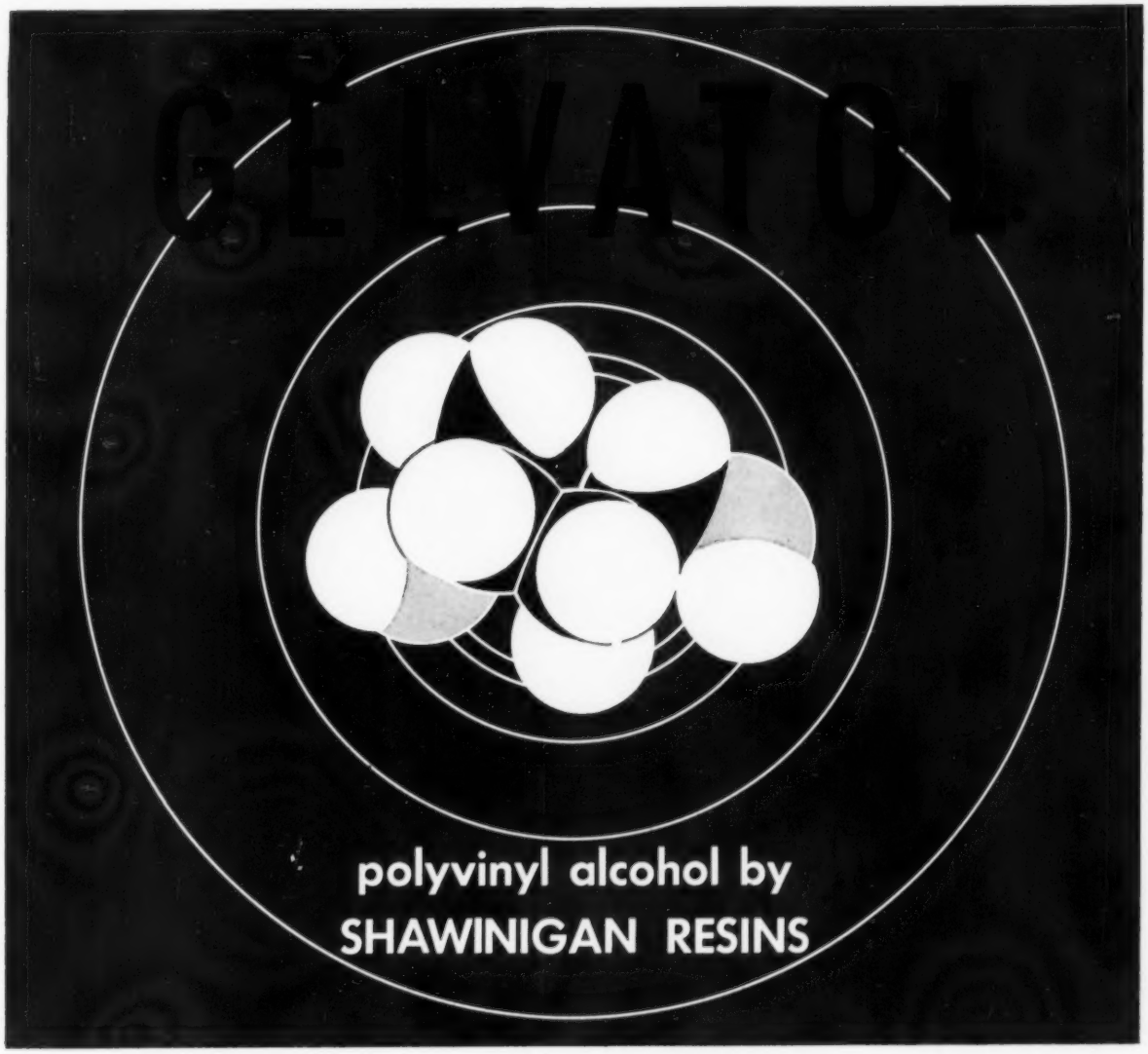
ZINSSER & COMPANY, INC.
Hastings-On-Hudson 6, N. Y.

Subsidiary of

**THE HARSHAW CHEMICAL CO.**
Cleveland 6, Ohio

ZINSSER

HARSHAW




## now on stream!

Commercially proved GELVATOL is now available from our new multi-million pound capacity plant. Advanced technology and production techniques enable Shawinigan to produce an extremely flexible series of resins of unmatched quality and uniformity.

GELVATOL opens your way to bigger profit-making markets. Standard grades are available, of course . . . and Shawinigan also offers unique, extremely low viscosity grades. Twelve grades in all are at your disposal for efficient, profitable formulations which will satisfy virtually any end-use requirement.

GELVATOL is the *big* name in polyvinyl alcohol resins. Write today for full technical information, product sample and sales service, to Shawinigan Resins Corporation, Department 4211, Springfield 1, Mass.

SALES OFFICES: ATLANTA CHICAGO LOS ANGELES
NEW YORK SAN FRANCISCO

**GELVATOL®** — *polyvinyl alcohol by*

**SHAWINIGAN RESINS®**

# Perfected Cleaning!

## ceiling to floor

- Each unit self-propelled.
- Independent air streams for room surfaces, frame areas, floor.
- Air directions and velocities are adjustable. Automatic dampers available.
- Sleeves below head height are flexible.
- Frame cleaner adaptable to all creels.

**ROOM CLEANER** (revolving continuously) for ceiling and other overhead surfaces. High velocity air.

**FRAME CLEANER**

Rugged track with shielded electric contactors.

Short sleeve for top creel board, tapers and spare roving.

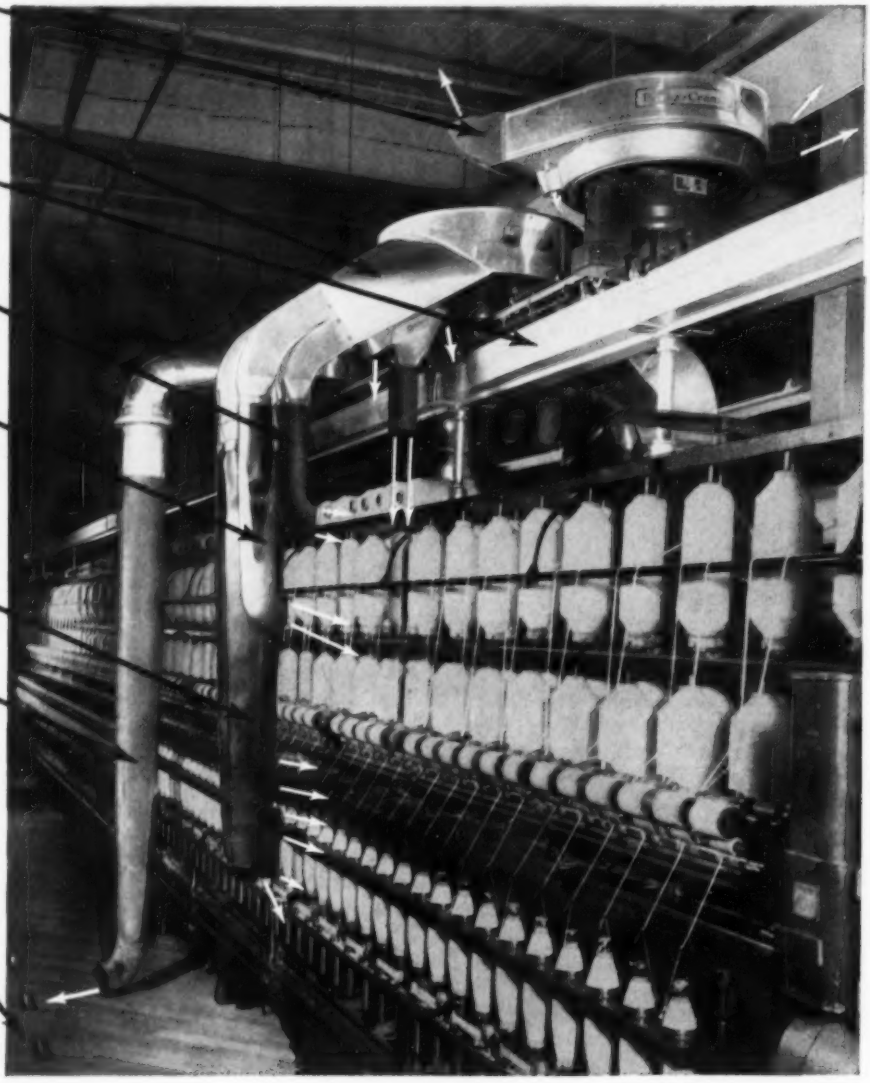
Medium length sleeve for middle creel board and roving tapers.

Long multi-outlet sleeve for bottom creel, thread board, roll stand area, ring rail, spindle rail and underframe. High velocity air.

**FLOOR SWEEPER**

Floor sweeper outlet turns on curves. Low velocity air.

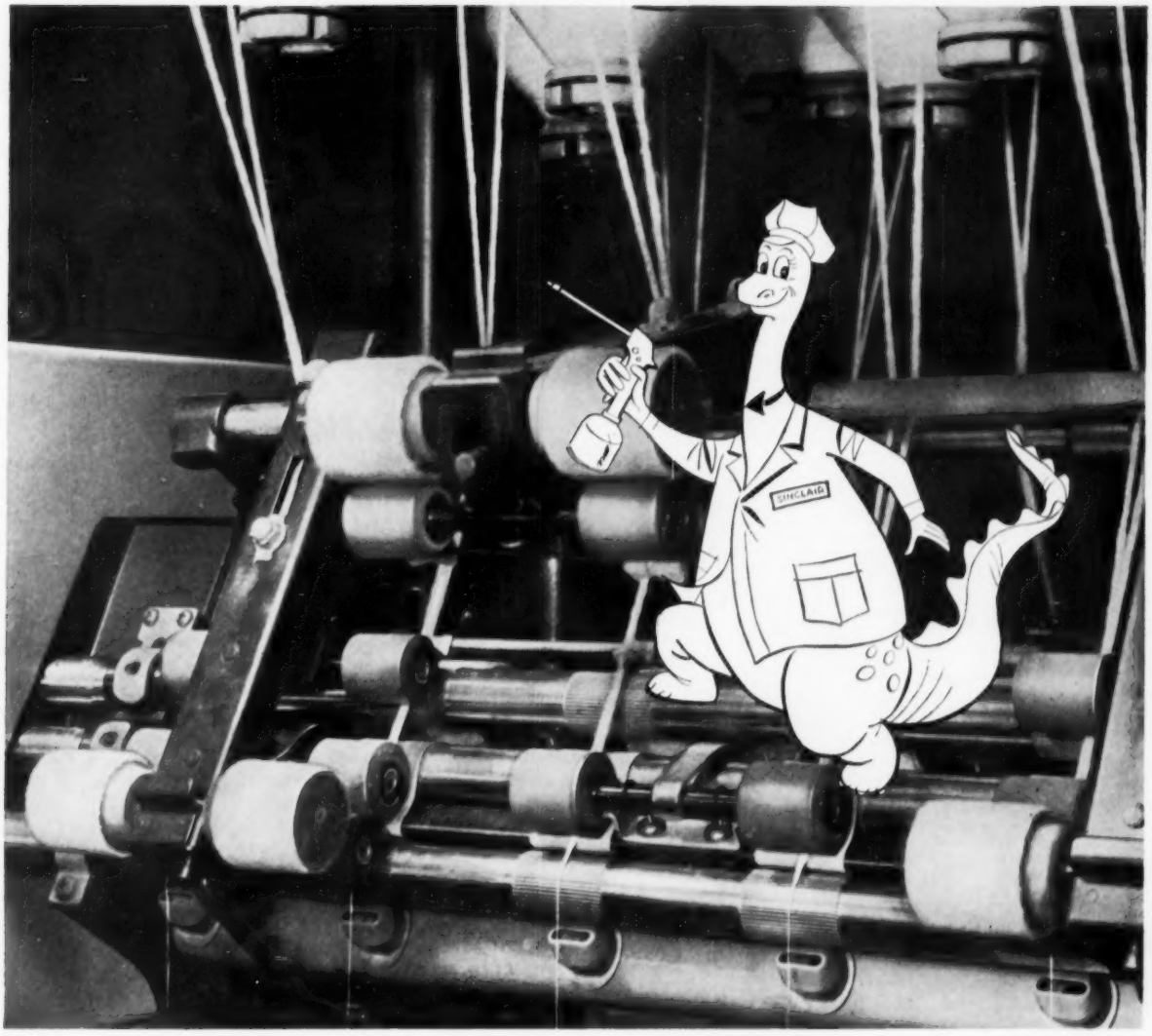
Vacuum removal of floor sweepings at two or more alleys.



## Parks-Cramer Company

FITCHBURG, MASS. • CHARLOTTE, N.C. • ATLANTA, GA.

405




Maintenance tips from Dino, the Sinclair Dinosaur

# NO-DRIP won't creep-can't create spoilage

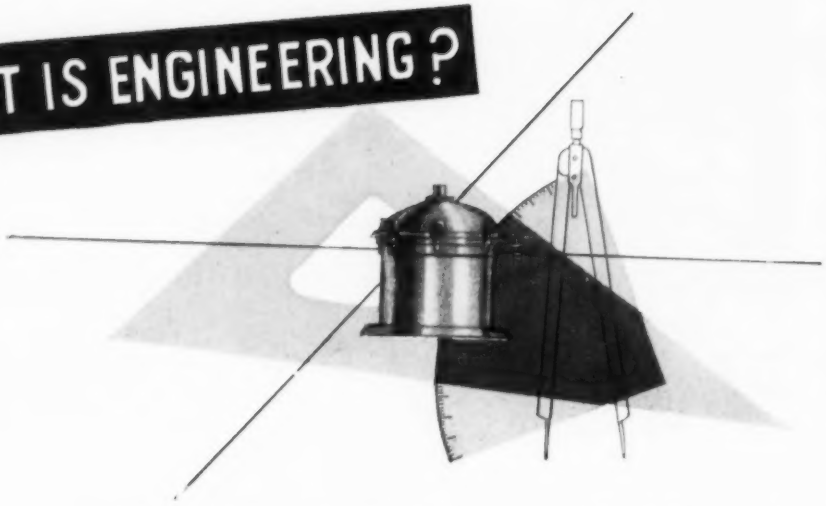
Protect your yarn and roll coverings from needless spoilage...switch to Sinclair NO-DRIP lubrication! These outstanding lubricants give complete bearing protection, yet stay put. They won't creep or throw out of bearings—remain fluid—permit rolls to turn easily and smoothly.

Sinclair NO-DRIP Numbers 8, 12, 15 and 17 can save you money through smooth operation and low maintenance costs. Call your Sinclair Representative today, or write for the new NO-DRIP pamphlet to Sinclair Refining Company, Technical Service Division, 600 Fifth Avenue, New York 20, N. Y. *There's no obligation.*

# SINCLAIR

## NO-DRIP TEXTILE LUBRICANTS

# WHAT IS ENGINEERING?



C. J. Webb

A. M. Rhyne

H. L. Davis

H. Y. Craig

M. P. Hudson

J. L. Luker

C. A. Brandon

E. J. Crisp

## ENGINEERING STAFF

**Engineering may be defined in many ways since it covers so many fields of endeavor.**
**Since it was founded 36 years ago in 1921, Gaston County Dyeing Machine Company has stressed the importance of custom designed equipment for the particular needs of individual mill requirements.**
**To accomplish this purpose we have constantly expanded our engineering department to meet the needs of the textile industry.**
**There is no substitute for experience, and we believe our engineers have the ability and experience to assist you in solving your problems in processing equipment of all types. Educational backgrounds include North Carolina State College, University of Tennessee and Duke University.**

**The dyeing of yarns, fabrics and raw stocks was and to some extent still is an art; however, the rapid development of new fibers has resulted in much research and laboratory work to develop new dyes and chemicals to obtain proper dyeing of the new fibers. Dyeing and drying of textiles may now be properly called a science.**
**The above developments require new and better designs in dyeing and drying machinery in order that maximum results will be secured with improved dyes and chemicals.**
**A complete service in engineering, designing and building of processing equipment is yours for the asking.**

**Office building and machine shop**

**New assembly plant**

# GASTON COUNTY DYEING MACHINE CO.

ESTABLISHED 1921 — STANLEY, N. C.

DESIGNERS AND BUILDERS OF DYEING, BLEACHING, EXTRACTING, AND DRYING MACHINES

***Stainless Steel Fabricators — Process Tanks and Pipe***

# The VERSATILITY of DERGOPAL®
## Fluorescent Whitening Agent
## lets you chart a way to IMPROVED WHITES
## for every fiber, for every fabric

- LIQUID—easy to use
- SUBSTANTIVE
- EFFECTIVE
- ECONOMICAL

Dergopal D was selected for the formula used in making the swatches appearing in the 1957 OFFICIAL WHITE COLOR CARD issued by The Wool Knit Manufacturers Association of the National Federation of Textiles, Inc.

| DERGOPAL | FIBER | USE |
|---|---|---|
| C | For use on WOOL and SILK<br>Can be applied in scouring or peroxide bleaching process | Produces IMPROVED WHITES and BRIGHTER SHADES.<br>Also applicable to nylon and acetate.<br>Where bluer cast is desired, use Dergopal D to eliminate pink cast |
| TC | For WOOL, ACETATE and NYLON<br>Primarily for use in last rinse or final finishing operation | Produces BRILLIANT WHITES<br>Minimum foaming and easy rinsing properties. Where a bluer cast is desired, use Dergopal TD |
| RC | For RAYON and COTTON<br>May be applied in kier boiling, chlorine bleaching or as an after rinse | Sharpens CONTRAST between white background and colored pattern on prints. Highly resistant to chlorine bleach.<br>Where a bluer cast is desired, use Dergopal RCX. |
| ST | For NYLON | Produces excellent whites which are RESISTANT TO HIGH TEMPERATURES used in setting nylon. Good light fastness. |
| EM | For DACRON, NYLON and COTTON<br>Applied at the boil | Produces UNUSUALLY BRILLIANT, BLUE-WHITE cast.<br>Supplied as a paste.<br>Resistant to sodium chlorite bleaching and to acid and alkaline media. Unaffected by high temperatures. Relatively good light fastness. |

WRITE FOR TECHNICAL SERVICE BULLETIN

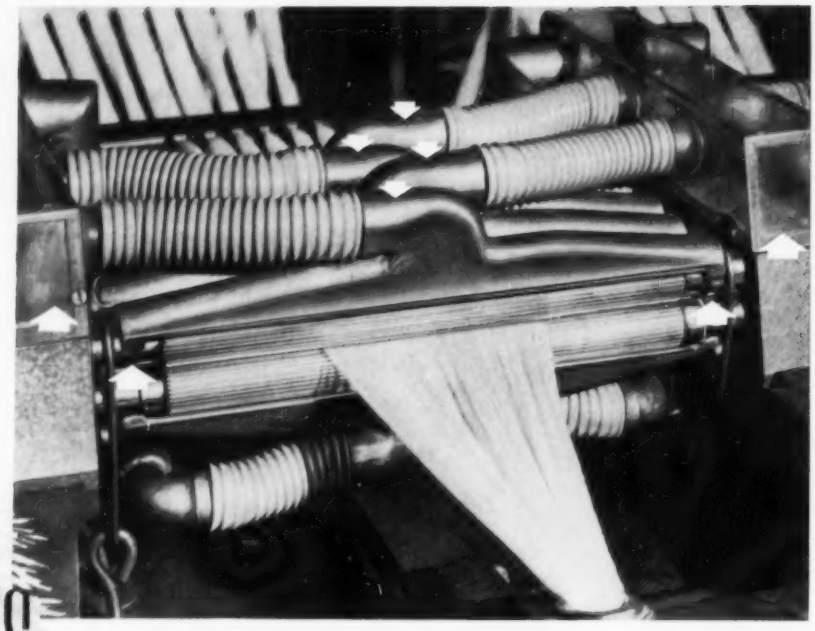
**DERGOPAL—the first LIQUID WHITENING AGENT..pioneered by** AC INC®

**ARKANSAS CO., INC.**

*Serving the Textile Industry for over 50 Years*

NEWARK, NEW JERSEY

*Way Out in front*



*Feathertouch*

# DRAFTING'S New Vacuum Cleaning*

**It Cleans the ROLLS** Each top and bottom roll has its own, individual, full-length, close-fitting cleaner. This gently picks up dirt, trash, and fly *from the rolls* instead of sucking them forcibly from the web. Mill tests show that less than 1% of the collector waste consists of good staple. Note that the vacuum action extends beyond the sliver and over the journals. Flexible tubing adjusts automatically to any roll setting.

**Individual Frame Units** Each frame has its individual vacuum system and collector box . . . and each delivery has its own plastic viewing section for visual observation of performance.

**Better Quality Sliver** Tests show that Ideal's Vacuum System eliminates slubs and removes a greater percentage of dirt, trash, and fly.

**90% Less Cleaning Time** No top or bottom clearers to pick. Has no wipers and no parts rubbing.

**Increased Production** This Vacuum Cleaning System permits fuller utilization of Ideal Feathertouch Drafting's tremendous potential speed. Records show a sustained speed of 370 feet per minute.

**Does Not Increase Frame Height**

*Patent Pending

**Ideal Industries, Inc.**
**Bessemer City, N.C.**

# SI

"... just where were you last night .....?"

Old Si, our chemist, may be a Knight of Pythias, Knight of Columbus, or Knight of the Golden Fleece, but every night is yours until your mill problem is solved.

Try old Si for Seyco service and size.

**Warp Sizing:** *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing, Waxes.*

**Wet Processing Chemicals and Auxiliaries:** *Dye Assistants, Penetrants, Rewetting Agents, Sanforized Fabric Oils, Detergents, Scouring Agents, Softeners.*

**Niagara Twist-Setter:** *Yarn Conditioning Penetrants.*

**Seyco Warp Lubricator.**

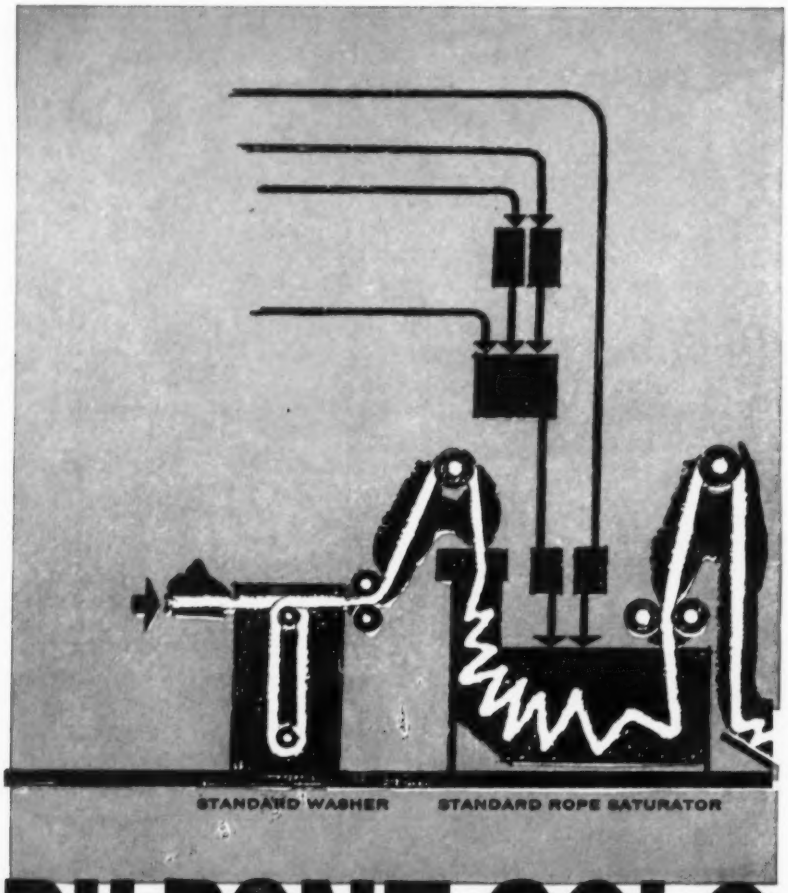
## Headquarters for textile chemicals

# SEYDEL-WOOLLEY & CO.

*748 RICE STREET, ATLANTA, GEORGIA*

SEYCO

# Here's the most advanced single-




# DU PONT SOLO

*It cuts operating costs,*
*saves valuable space,*
*reduces your investment*

Just a glance at the diagram above will tell you the Du Pont Solo-Matic Process is far simpler than multi-stage bleaching units . . . *yet it can do the work of a multi-stage unit in the same time and in half the space.*

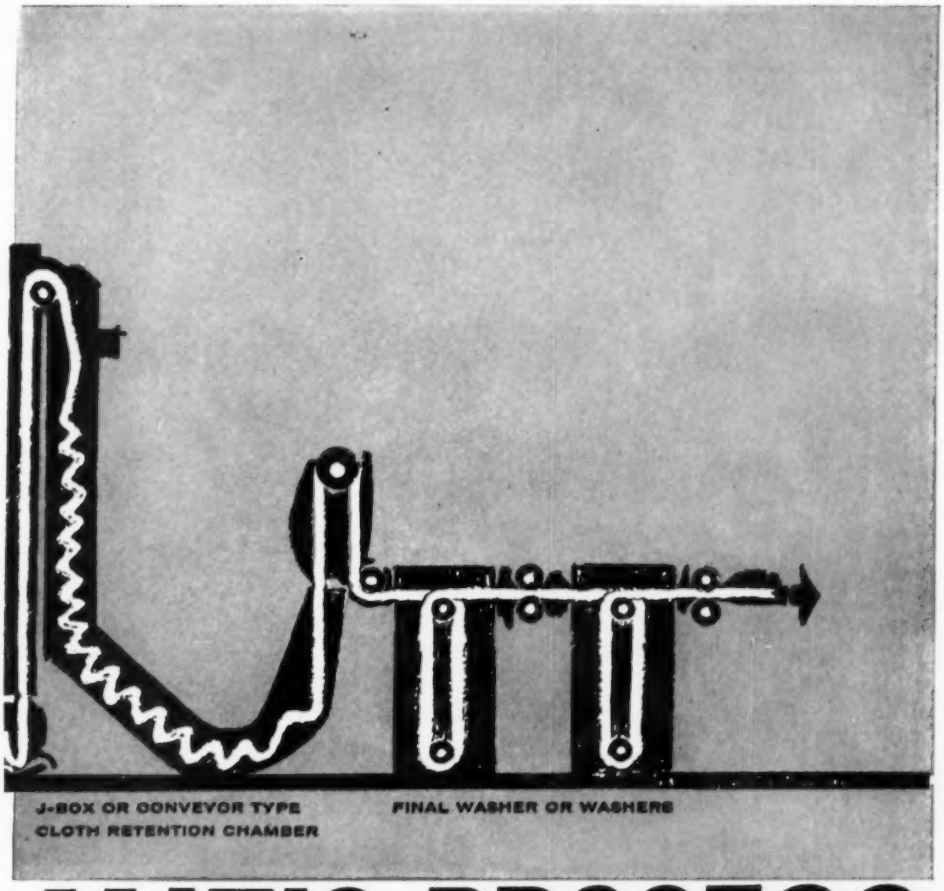
Look over the advantages and you'll see why the Solo-Matic Process can make a *profitable* difference in your operation.

**SPACE-SAVING**—a typical Solo-Matic setup with one J-Box occupies a space of only 45 feet by 20 feet . . . bleaches up to 6,000 lbs. of cloth per hour.

**EXCELLENT SPACE/PRODUCTION RATIO**—The Solo-Matic can match your present production in one-half the space of a conventional unit, or double your output in the same space.

**ECONOMICAL**—The Solo-Matic Process saves up to 40% on utilities, operating costs and capital investment . . . requires no more chemicals than many two-stage continuous systems. It makes the most efficient use of steam and water, too . . . reduces seconds and rejects.

# stage bleaching method you can use




# -MATIC PROCESS

**FLEXIBLE**—The Solo-Matic can be used with any standard cloth pre-treatment . . . fits in with new or existing equipment.

**HIGHEST-QUALITY RESULTS**—The Solo-Matic Process assures high uniform brightness, improved hand and absorbency, freedom from friction and bruise marks.

We'll be glad to send you all the facts. Write to the address on the right for our new illustrated booklet which describes more fully the advantages of the process. See for yourself why the Du Pont Solo-Matic Hydrogen Peroxide Process is the most advanced single-stage bleaching system yet developed!

## DU PONT PEROXIDES

DU PONT

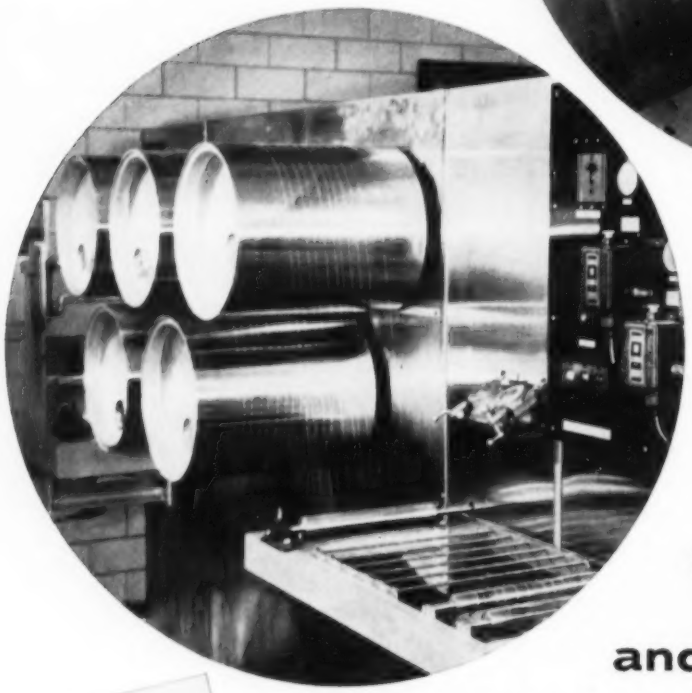
REG. U. S. PAT. OFF.

*BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY*

**ELECTROCHEMICALS DEPARTMENT**
*Peroxygen Products Division*

**E. I. DU PONT DE NEMOURS & CO. (INC.)**
*Wilmington 98, Delaware*

*in the* **DYE TUBS** *and* **BLEACH**



*or in the* **DRY END**

# Stainless works best and lasts longest

Allegheny Stainless offers the corrosion resistance and easy cleaning qualities required in equipment for the wet processes of textile manufacture, and it solves problems of dirt, rust, snagging and binding in dry operations as well.

*You collect on plenty of advantages!* Allegheny Stainless helps to maintain high quality in the product. Its easy maintenance minimizes costly cleaning time and production tie-ups . . . assures true colors and fast change-overs. Even more important, stainless steel means long equipment life and freedom from wear. *No other material combines all these desirable properties with such long-run* economy. • Let us show you how stainless can help to improve operations and cut costs. ***Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa.***

WBW 6468

**Write for your Copy:**
**A-L STAINLESS STEEL**
**Report to the Textile Industry**

40 pages of useful information on the applications and advantages of stainless steel in textile plant equipment of all types. Well illustrated—also contains a technical section of data on selection and fabrication, etc.

**ADDRESS DEPT. TI-95**

## Make it BETTER—and LONGER LASTING—with

# Allegheny Stainless

AL ALLEGHENY LUDLUM

**Warehouse stocks carried by all Ryerson steel plants**

# $CH_2Cl_2$

# METHYLENE CHLORIDE

At a time when this broadly useful intermediate and raw material is often in short supply, your records should show that Stauffer has huge and growing facilities for the manufacture of Methylene Chloride.

The Stauffer plant at Louisville supplies Methylene Chloride in drums of 600 pounds net capacity . . . in tank trucks . . . in tank cars of 4000, 8000 and 10,000 gallons . . . and in barges. Drum shipments are also made from warehouse stocks at Chicago, Houston, Akron, Cleveland, Pittsburgh, Boston, San Francisco, Los Angeles, Portland, Ore., and Niagara Falls.

Stauffer Methylene Chloride meets the highest standards of purity.

**Stauffer can also supply you with Carbon Bisulfide, Perchlorethylene, Trichlorethylene, Carbon Tetrachloride and Chloroform. A new brochure on Stauffer Chlorinated Solvents will shortly be ready for mailing. Kindly advise on your letterhead if you would care to have a copy.**

*stauffer means service*

**STAUFFER CHEMICAL COMPANY**

**380 Madison Avenue • New York 17, N. Y.**

Prudential Plaza, Chicago 1, Illinois • 636 California Street, San Francisco 8, Calif.

Stauffer CHEMICALS SINCE 1885

# *Have you an Ozone-Fading Problem?*

Then it's time you started thinking about using HARTOFUMES . . . a must for the prevention of ozone-fading with the new gas-fast dyes. HARTOFUMES are the most economical gas-fading inhibitors for normal acetate dyeings on the market today.

**HARTOFUME C**—An emulsifiable liquid offering minimum yellowing and permanent protection.

**HARTOFUME N** – A durable inhibitor, also used as a topping agent for the permanent HARTOFUMES to give 3-cycle protection.

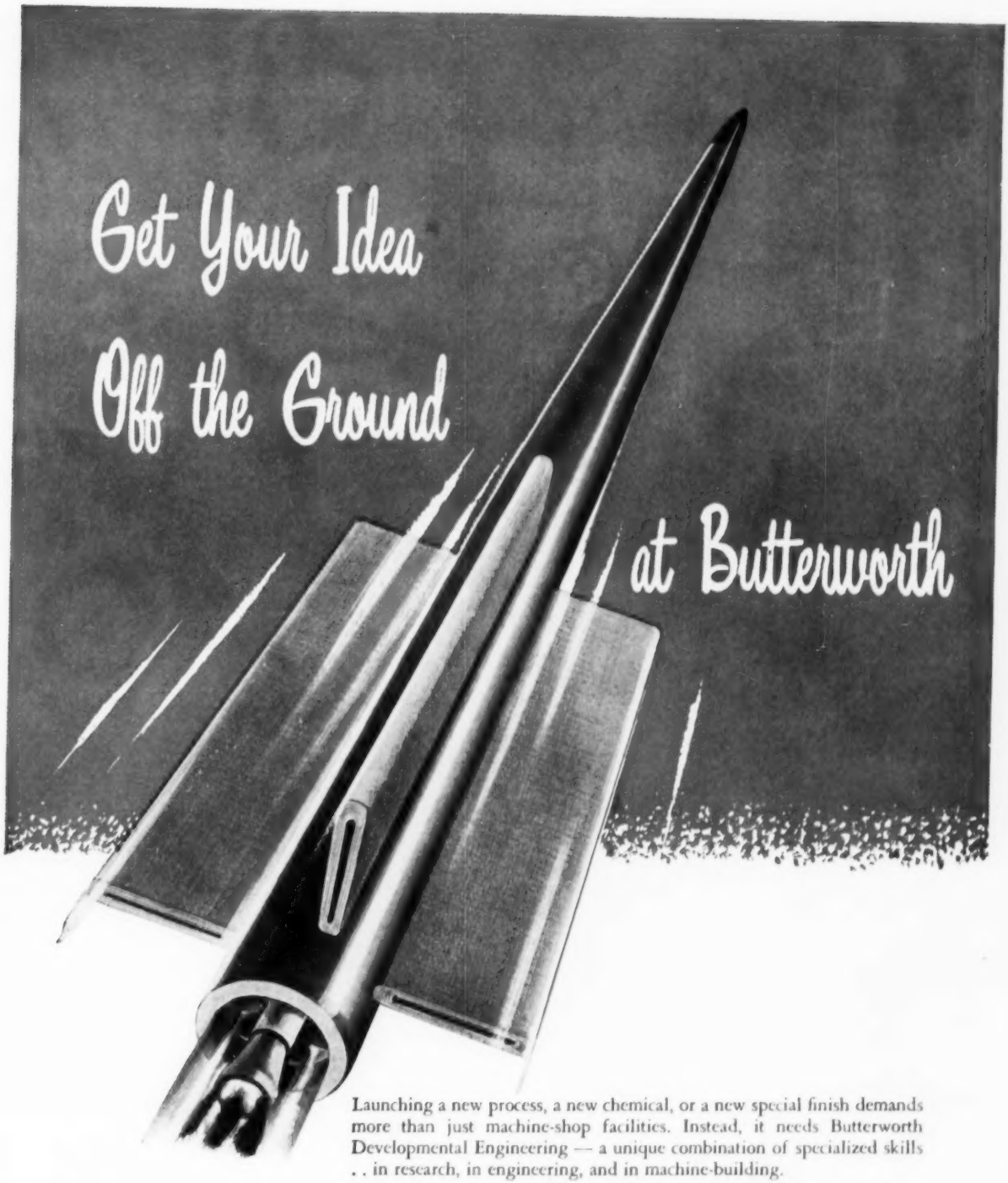
HART PRODUCTS
BASED ON RESEARCH

## *the Hart Products Corporation*

**1440 BROADWAY, NEW YORK 18, N. Y.**

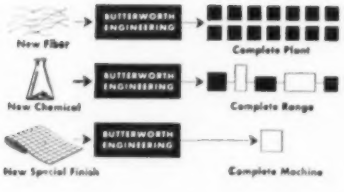
*Works and Laboratories, Jersey City, N. J.*
Hart Products Company of Canada, Ltd., Guelph, Ontario

# Get Your Idea Off the Ground at Butterworth



Launching a new process, a new chemical, or a new special finish demands more than just machine-shop facilities. Instead, it needs Butterworth Developmental Engineering — a unique combination of specialized skills . . in research, in engineering, and in machine-building.

Specialized machines designed and built by Butterworth are now being used at almost every step in the manufacture of textiles — from the spinning of fibers to dyeing, bleaching and finishing. And among Butterworth's standard products are 84 diversified machines for textile finishing. So if your idea is still on the ground, let Butterworth get it airborne for you . . in complete secrecy . . from blueprint to production line.

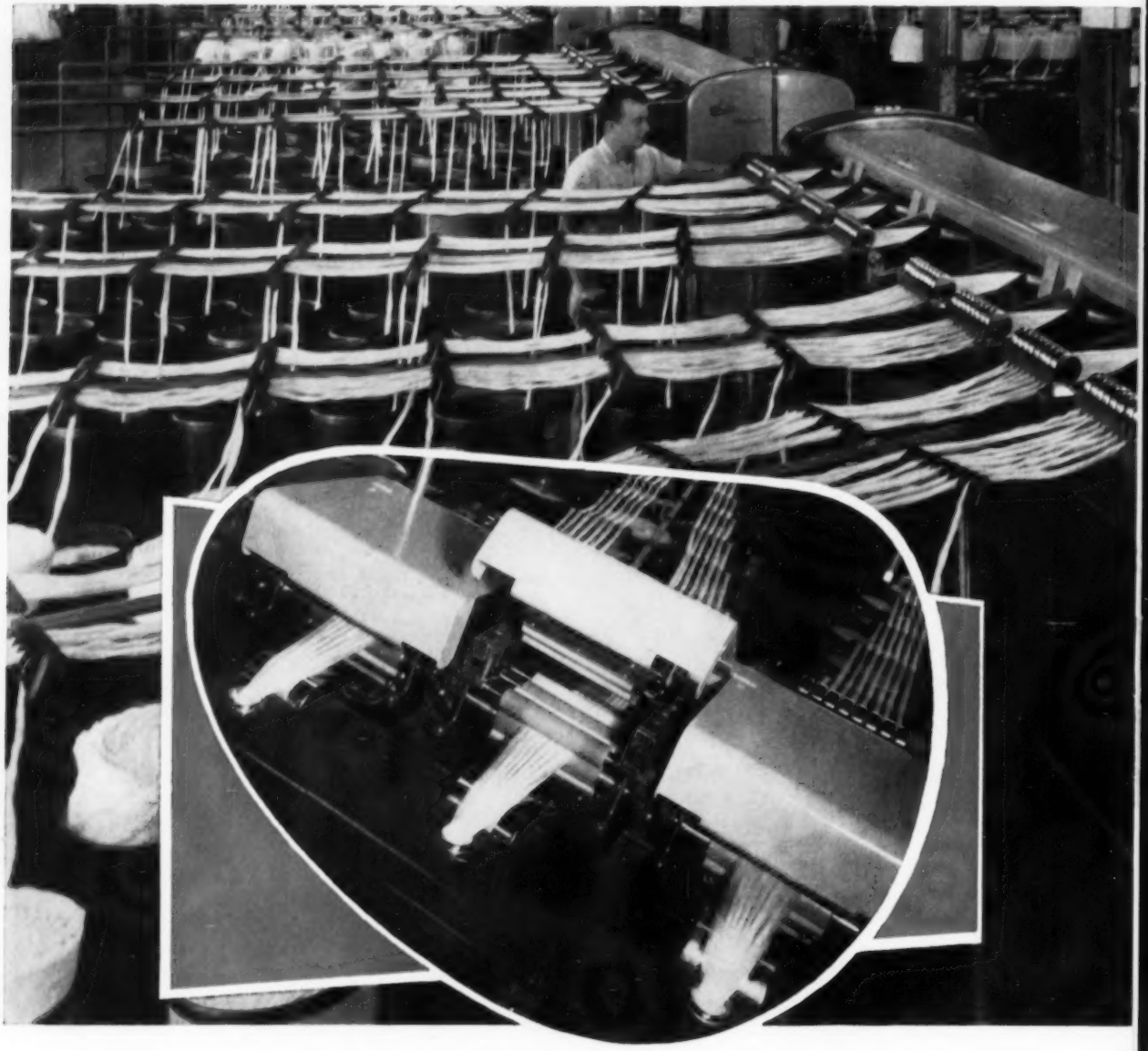



**Developmental Engineering • Research • Machine Building**

**H. W. BUTTERWORTH & SONS CO.**

Division of Van Norman Industries — **BETHAYRES, PENNSYLVANIA**

# *From a practical viewpoint...* WHITIN



The Whitin EVEN-DRAFT* drawing frame with its unique Pneuma-Clear waste removal unit has been installed and sucessfully operating in scores of mills. It has now been proven the first practical high speed drawing frame, outperforming all others. Users report up to triple production, sliver more even than ever produced before, costs reduced up to 50%, plus many other advantages in subsequent processing, in yarn and fabric quality.

# EVEN-DRAFT* DRAWING

## *is your best buy . . .*

*Unretouched photo of 80 delivery installation of Whitin EVEN-DRAFT drawing frames. Note extreme cleanliness of machines and area.*

TRADE MARK*

## *Because*

**It is unequalled for production, evenness of sliver, running cleanliness, efficiency and lowest operating cost.**

You get **ALL** these advantages with Whitin **EVEN-DRAFT DRAWING**

- **Runs up to 300 feet per minute — On all fibers up to 3" — depending upon mill conditions and production needs**
- **Cleanliness — Clearer waste and fly efficiently removed by Pneuma-Clear units on each delivery — an indispensable essential to satisfactory operation — available only on WHITIN EVEN-DRAFT.**
- **Four over Five drafting units — no rolls to remove or replace, simple to set**
- **Superb sliver quality — Variations: carded 12-16%; combed, 10-14%; synthetics, 10-14%**
- **Advanced design — Two independent four-delivery heads, heavy vibration proof precision construction, overarm weighting, electronic stop motions and signal lights; 14" - 15" - 16" cans, 36" or 42" high.**

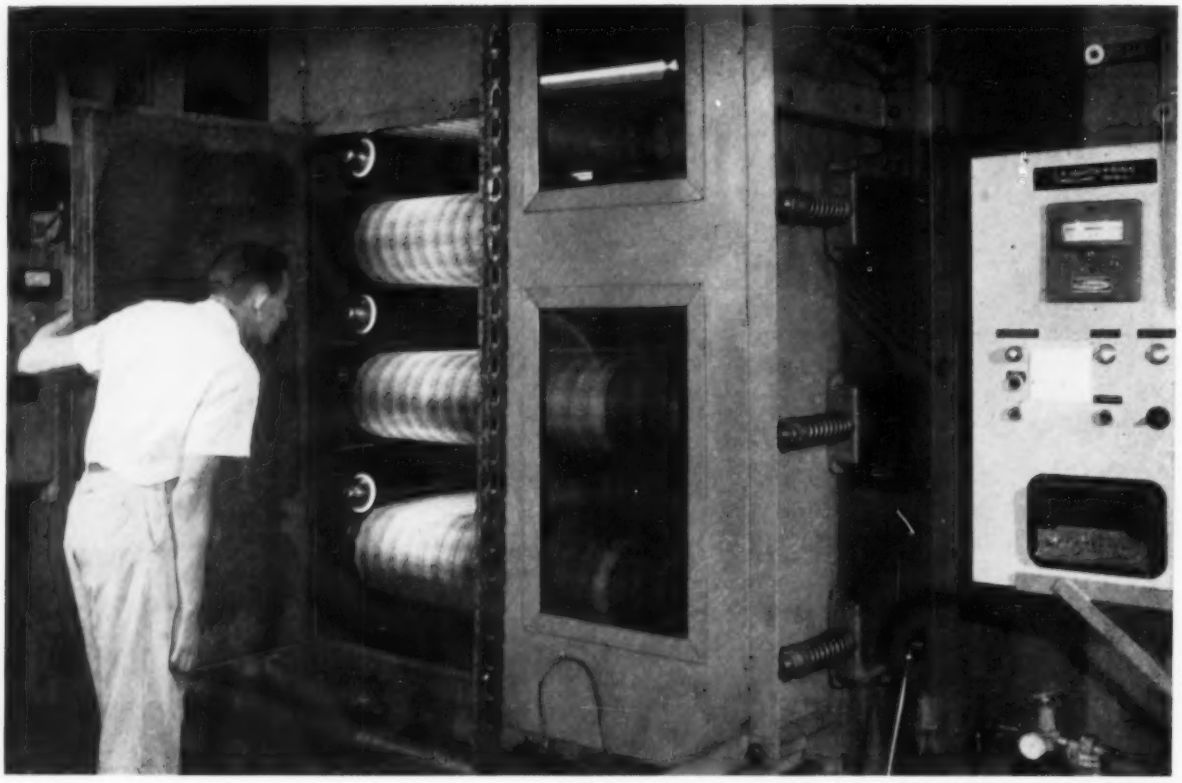
A specific example, based on actual operating conditions in the production of high quality print cloth 80 x 80, 39", 4.00 yds./lb., 31's warp, 41's filling, 162,190 lbs. per 144 hrs.

| | Breaker | Finisher |
|---|---|---|
| No. deliveries | 32 | 32 |
| Sliver fed., grs. | 55 | 55 |
| No. slivers | 6 | 6 |
| Sliver del., grs. | 55 | 60 |
| F.P.M. | 300 | 300 |
| Efficiency | 80% | 80% |
| Prod./lbs./hr. | 302 | 329 |
| Prod./144/hrs. | 43488 | 47376 |
| Operators | 1 | 1 |
| **Direct labor cost per lb. for drawing (based on cloth prod.)** | | **$.00234** |

# Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



Photograph of multiple-pass drier courtesy of Synthetics Finishing Corporation, Philadelphia.

# The resin with many Textile uses

RHOPLEX B-15 is, literally, a most "use-full" resin. We can think of no better way to demonstrate its versatility for binding and finishing textiles than to ask you to *try* it—then you'd quickly learn just how many useful and outstanding properties this recent addition to our resin family actually has.

## Rhoplex B-15 is useful as

- a binding agent in the production of non-woven fabrics for industrial and interlining uses. RHOPLEX B-15 may be used alone or with thermosetting resins . . . resists discoloration and stiffening upon exposure to ultraviolet light or heat . . . shows good thermal and mechanical stability and therefore may be used in processes normal to the manufacture of non-woven fabrics.
- an agent in the wet processing of flat and pile upholstery. RHOPLEX B-15 imparts excellent backing properties . . . severe exposure tests show that it does not discolor or stiffen on aging . . . requires no curing and therefore offers greater versatility in processing.
- a means for improving the physical properties of crease-resistant cotton fabrics.
- a hand modifier for cotton and rayon fabrics and the newer synthetics.
- a pigment binder in the preparation of coated fabrics for book cloth, tag finishes, shade cloth, industrial fabrics, etc.
- a non-slip finish and hand builder for nylon taffeta. RHOPLEX B-15 can be readily mixed with dulling agents, and will often provide a finish that eliminates the need for subsequent calendering.

Our representatives welcome the opportunity to discuss this useful textile resin further and to suggest how RHOPLEX B-15—or any other member of the Rohm & Haas family of textile resins—may be the answer to your textile problems.

RHOPLEX *is a trade-mark, Reg. U.S. Pat. Off. and in principal foreign countries.*

*Chemicals for Industry*

**ROHM & HAAS COMPANY**

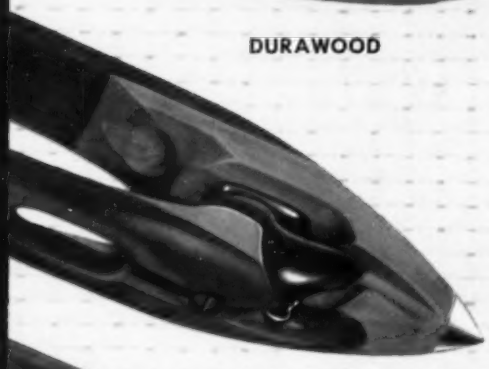
**WASHINGTON SQUARE, PHILADELPHIA 5, PA.**

*Representatives in principal foreign countries*

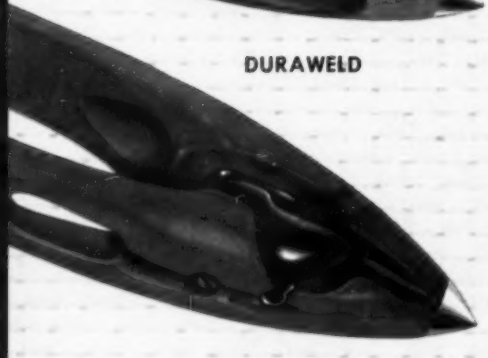
# RHOPLEX B-15

TEMPERED DOGWOOD

DURAWOOD



DURAWELD



DURAMOLD

# Southern *Quality* Shuttles

## Cost Less In The Long Run

Southern Shuttles are the answer to demands by textile mill men for longer, trouble-free shuttle life and better quality weaving. Here are examples of Southern's Quality line.

TEMPERED DOGWOOD—The finest natural wood shuttles treated with Southern's exclusive tempering process, making them extremely tough, wear-resistant and stable.

DURAWOOD—Southern's Tempered Dogwood shuttles further improved by an exclusive process of compression under heat. They are longer lasting, fracture-resistant, and slightly denser. They provide 50% greater life expectancy at a very nominal additional cost.

DURAWELD—These shuttles offer 100% longer life expectancy with a very moderate weight increase. Greater strength is assured through use of tempered dogwood end blocks for resiliency and tip retention, permanently bonded by an exclusive Southern method to long wearing wall sections of laminated wood or plastic.

DURAMOLD—Made of Westinghouse Micarta, remarkably strong, grainless molded plastic. Duramold shuttles last 3 to 4 times longer than natural wood shuttles, require less maintenance, reduce down time and weave better cloth. These are absolutely the finest shuttles on the market today.

SOUTHERN has a complete line of shuttles for you to select from—any size, any shape, any type, for any loom. You name it—Southern has it. Many standard sizes are in stock for immediate delivery.

***World's largest manufacturer of all type Shuttles. Comparison made them famous.***

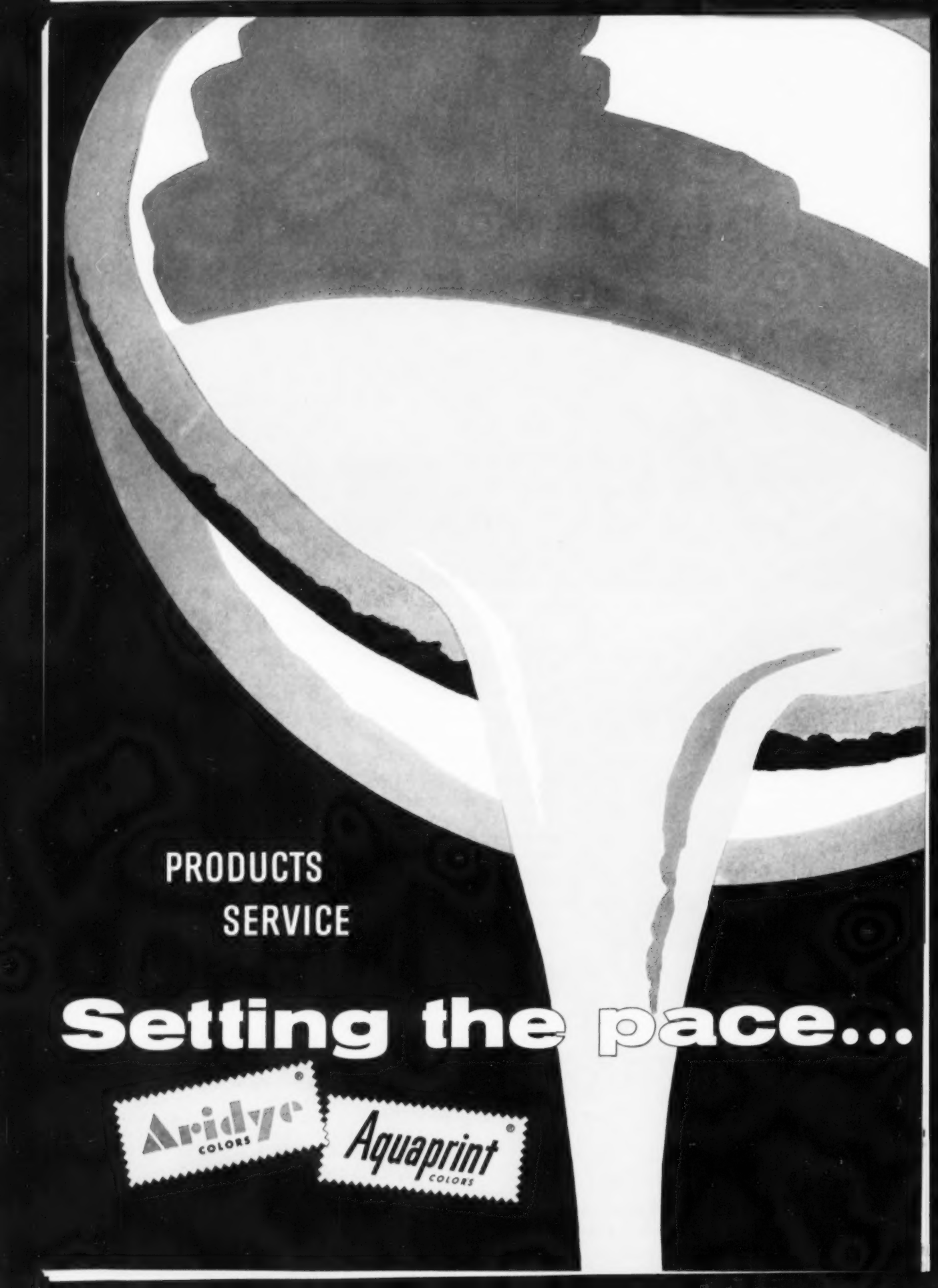
Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

TEMPERED

QUALITY Stehedco CONTROL

STEHIDE

Other Plants and Offices: Granby, Quebec, Canada—Lawrence, Mass.—Greensboro, N. C.—Atlanta, Ga.—Textile Supply Co., Dallas, Texas—Albert R. Breen, Chicago, Ill.


PRODUCTS
SERVICE
Setting the pace...
Aridye COLORS
Aquaprint COLORS

# Aridye-Aquaprint YELLOWS

## for Fast-Color Printing

Whether you're printing cottons, synthetics, or blends, you'll find an Aridye or Aquaprint Yellow that fits your needs.

Yellow 2R is an example. There is no other color like it! The pigment employed was developed by Interchemical Research. It is available in both the Aridye and Aquaprint Series.. Yellow 2R is now being used more and more by leading printers. On cottons and synthetics, it produces bright yellows . . . is useful in blends.

Important properties of Yellow 2R and other Aridye and Aquaprint Yellows are charted below.

For samples and full information on this outstanding range of Yellows for fast-color printing, simply fill in and mail the coupon now.

| Color | Light | Washing (A.A.T.C.C. No. 4 Test) | Drycleaning Carbon Tetrachloride | Drycleaning Perchlorethylene | Suitability for Plisse | Discharge Printing (Aridye 400 Series Only) | Remarks |
|---|---|---|---|---|---|---|---|
| Chartreuse | ★ | ★ | ★ | ★ | ★ | | Greenish yellow with outstanding fastness. Especially useful in blends. |
| Yellow 2G | ● | ★ | ★ | | ★ | ★ | Most widely used yellow for printing dress goods and other washable fabrics. |
| Yellow 3G | ● | ★ | ★ | ★ | ★ | ★ | Lemon yellow with better fastness to light and drycleaning than Yellow 2G. |
| Yellow K | ★ | | ★ | ★ | ★ | | Mustard yellow for producing prints with maximum fastness to light and drycleaning. |
| Yellow R | ★ | | ★ | ★ | | | Bright reddish yellow with excellent fastness to light and drycleaning. |
| Yellow 2R | ● | ★ | | | ★ | ★ | Bright reddish yellow widely used in blends for blotch printing. Has better lightfastness than Yellow 2G. |
| Golden Yellow RF | ● | ★ | ★ | ★ | ★ | ★ | Bright golden yellow with outstanding properties. Has better lightfastness than Yellow 2G. |

★ outstanding fastness ● meets normal dress goods requirements Tests conducted in accordance with A.A.T.C.C. Standard Methods

**Interchemical** CORPORATION *Textile Colors Division*

Pawtucket, R.I. HAWTHORNE, N.J. Rock Hill, S.C.

Interchemical Corporation, Textile Colors Division, Hawthorne, N. J.

**Please send me samples and complete information on the Aridye and/or Aquaprint Yellows checked below:**

**ARIDYE**

☐ Chartreuse ☐ Yellow 2G ☐ Yellow 3G
☐ Yellow K ☐ Yellow R ☐ Yellow 2R
☐ Golden Yellow RF

**AQUAPRINT**

☐ Chartreuse ☐ Yellow 2G ☐ Yellow 3G
☐ Yellow K ☐ Yellow R ☐ Yellow 2R
☐ Golden Yellow RF

**NAME**_____

**COMPANY NAME**_____

**STREET**_____

**CITY**_____ **ZONE**_____ **STATE**_____

# Spin top-quality yarn with Armstrong Accotex Aprons

No matter what fiber you're spinning, the right apron can make an important difference in yarn quality. That's why hundreds of mills have standardized on precision-made Armstrong Accotex® Aprons. These aprons are made by a special patented process that assures top performance, shift after shift.

For double-apron systems, Accotex NO-7075 Aprons have different synthetic rubber compounds on each surface. Each layer is tailored for the special job it must do. The inner—or white—layer is smooth enough to slip over the pins freely, yet it has the right friction to grip the drive roll firmly. The black outer surface is designed to resist abrasion and tearing and has enough friction to keep the top apron spinning without slipping.

Between these layers there is a straight-line cord interliner that keeps the apron from stretching or twisting. This sandwich construction is vulcanized into a seamless apron . . . then ground to the exact dimensions specified for your equipment.

At each step in the manufacture of Accotex Aprons, rigid quality control and high inspection standards keep all aprons identical in every respect . . . in size, in frictional qualities, flexibility, and abrasion resistance.

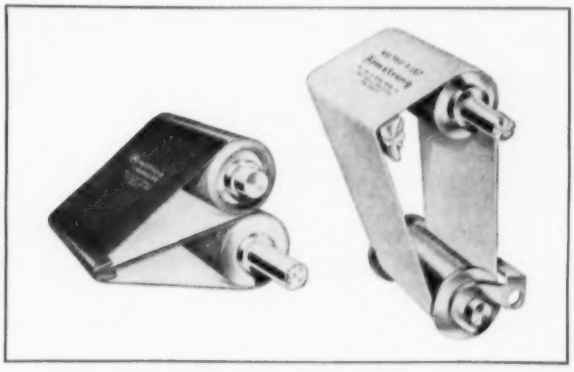
Armstrong research keeps abreast of new developments in spinning equipment to make sure that Accotex Aprons always are available with the right qualities to give top spinning performance on any frame.

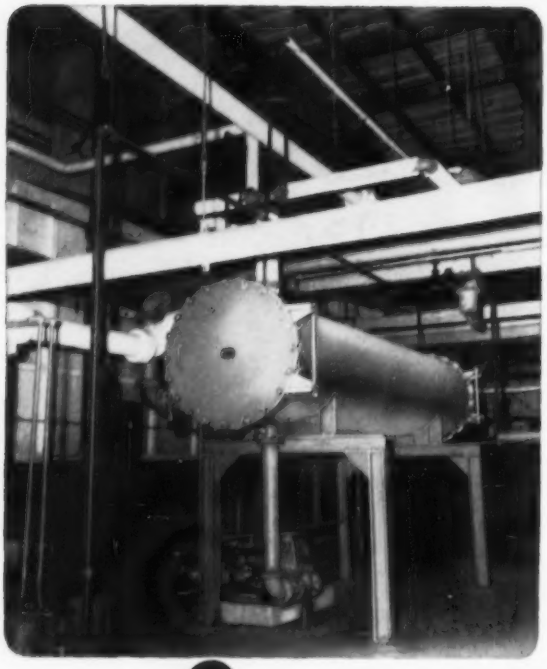
If you're not already using Accotex Aprons, ask your Armstrong man to arrange a test side next time he calls. Or write for more information to Armstrong Cork Company, Industrial Division, 6411 Ivy Street, Lancaster, Pennsylvania.

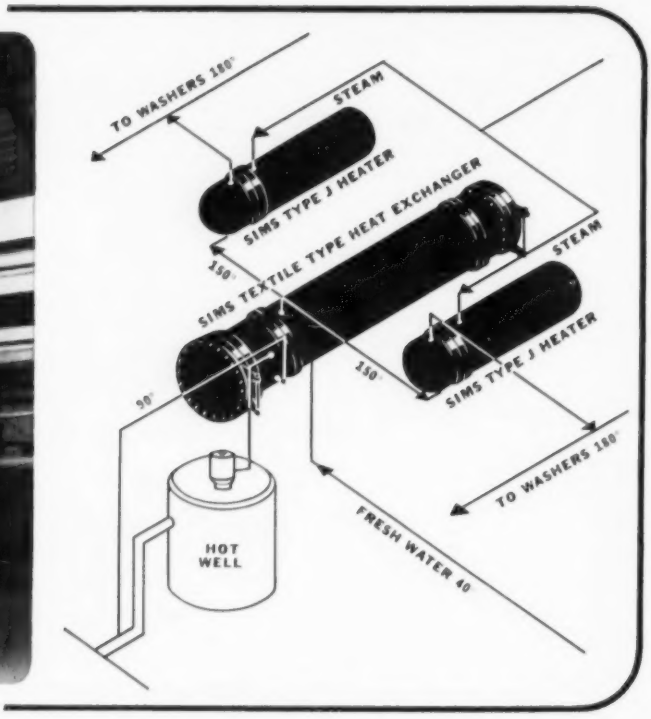
**Armstrong ACCOTEX APRONS**

*. . . used wherever performance counts*

**FOR DOUBLE-APRON SPINNING,** use Accotex NO-7075 Aprons. Inner surface grips drive roll firmly, yet slips over pins without jamming. For single-apron spinning, the NO-750 Apron gives the smooth drafting action needed for strong, uniform yarn.








# These 3 Finishing Plants Save Money with SIMS HEAT EXCHANGERS - - -

## *at Pepperell, Ala.*

6 large Sims Textile type Heat Exchangers serve bleaching and dyeing ranges and mercerizer. Each waste water exchanger is connected to a Sims booster exchanger using steam to raise temperature of water. Typical of all, is the operation of one, on the dye range, fresh cold water introduced at 72°F. is raised to 136°F. The 6 Sims Exchangers were equivalent to an added 40,000 lbs./hr. boiler.

## *at Granitville, S.C.*

2 very large Sims Textile type Heat Exchangers are fed from a hot waste water collecting tank. An average of 50,000 gallons per hour of incoming fresh water gains 42°. passing through the exchangers. These 2 Sims Exchangers are floor mounted and serve dyeing ranges and mercerizer to convert waste hot water into usable hot water.

## *at Clevedale, S.C.*

One of 3 Sims Textile type Heat Exchangers serves a mercerizing department. About 250,000 gals. per day of waste water at 175 to 180°F. are passed through this exchanger. Incoming fresh water at 77°F. gained 35°F. at a flow of 172 gallons per minute. Savings on a 24 hour basis amounted to 83,062,500 B.T.U.'s. The 2 other Sims Exchangers operate on bleaching ranges.

Easy opening, swinging doors reveal the entire inside of a Sims Exchanger. Straight 1¼" tubes permit straight-thru hosing. Polished stainless steel tube plates with wide belled stainless steel or copper tubes and curved, removable baffles resist lint deposits.

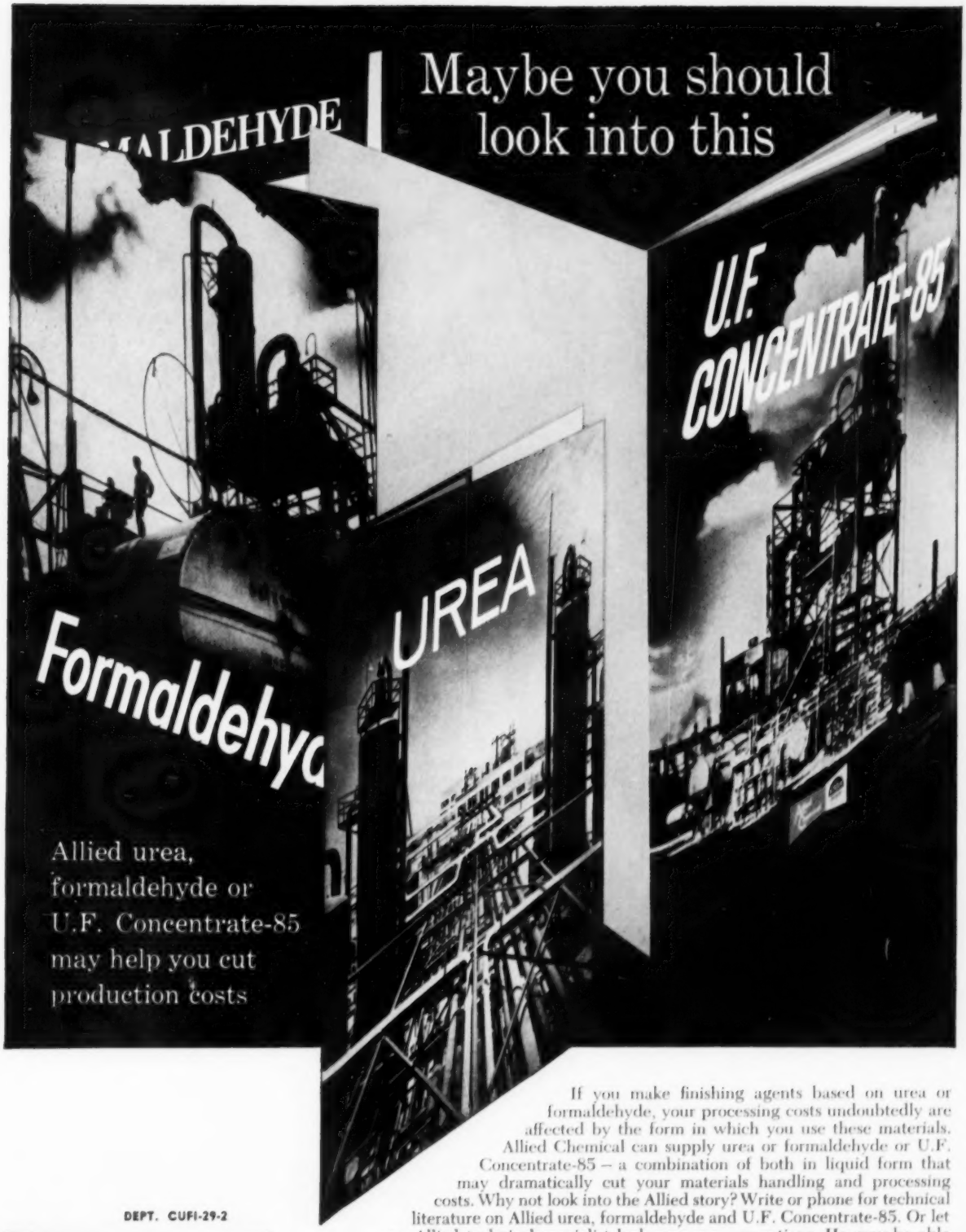
It's a routine job to make sure a Sims Exchanger is bone clean. You can see it—there is nothing left to imagination—no return bends to contend with—no sealed system. Ask for Bulletin TE-3.

**THE SIMS CO.** **Erie, Pennsylvania**

Manufacturers of Exhaust Gas Boilers • Storage Water Heaters • Heat Exchangers • Feed Water Heaters • Steam Separators

SIMS SINCE 1886

• Quenching Oil Coolers • Oil Heaters • Caustic Soda Recovery Equipment • Commercial type Instantaneous Water Heaters.




If you make finishing agents based on urea or formaldehyde, your processing costs undoubtedly are affected by the form in which you use these materials. Allied Chemical can supply urea or formaldehyde or U.F. Concentrate-85 – a combination of both in liquid form that may dramatically cut your materials handling and processing costs. Why not look into the Allied story? Write or phone for technical literature on Allied urea, formaldehyde and U.F. Concentrate-85. Or let an Allied technical specialist look over your operations. He may be able to suggest simple modifications that will reduce your resin-making costs.

DEPT. CUFI-29-2

Allied Chemical — NITROGEN DIVISION

40 Rector Street, New York 6, N. Y.

Ethanolamines • Ethylene Oxide • Ethylene Glycols • Urea • Formaldehyde • U. F. Concentrate—85 • Anhydrous Ammonia • Ammonia Liquor • Ammonium Sulfate • Sodium Nitrate • Methanol • Nitrogen Solutions • Nitrogen Tetroxide • Fertilizers & Feed Supplements

# good fastness... attractive shade

with

## CALCOGENE* BLUE 6RCF SOLUTION

Because Calcogene Blue comes in liquid form, there's no time wasted in preparing a solution. It's easily measured—volumetrically—from drums kept at the point of use. Calcogene Blue is highly resistant to bronzing, insolubles are practically non-existent.

A high quality sulfur dye, Calcogene Blue 6RCF Solution gives good fastness at low cost. It works well with Calcogene Black solutions to produce a wide, wide range of navy shades. And range of *application* is equally wide—raincoat fabrics, corduroy, bed-ticking stripes, etc.

If you're on the lookout for sharp, appealing navy blues—reliable fastness—ease of dyeing operations—specify Calcogene Blue.

And for technical information plus mill trial samples, simply contact: American Cyanamid Company, Dyes Department, Bound Brook, New Jersey.

| FASTNESS PROPERTIES | |
|---|---|
| FADE-OMETER | 6 |
| AATCC WASH TEST NO. 3 | |
| SHADE CHANGE | |
| Hue | 4 sl. redder |
| Strength | 3-4 |
| STAINING | |
| Wool | 4 |
| Viscose | 4 |
| Silk | 4 |
| Acetate | 3-4 |

Calco®
THE SYMBOL OF QUALITY DYES

CYANAMID

*Trade Mark

# News IN BRIEF

**Textile Executives Pay Down.** Textile executives took home smaller pay checks in 1956 than in 1955, according to a report by McKinsey & Co., management consultants. Top management executives in other industry groups, however, on the average made

more money in 1956 than in 1955. The report was based on data filed with the Securities and Exchange Commission by 641 companies, representing 18 industry groups. The textile industry gives its executives above-average pay, in terms of profitability, according to the report.

**Textile Failures Up.** There were 63 failures among manufacturers of textile mill products during the first seven months of 1957, and they had liabilities of $7,571,000, according to Dun & Bradstreet's Credit Clearing House. The figures represent a 17 per cent increase in number of failures and an 11 per cent increase in liabilities, compared to the same period of 1956.

**Cotton Standards.** Over 150 laboratories—more than a third of them in foreign countries—are using the "calibration cottons" prepared by the Cotton Division of the U.S. Department of Agriculture. There are three samples, which give high, medium, and low readings in the Micronaire test for fiber fineness and the Pressley test for strength.

**TWUA Gives Up on Burlington.** The Textile Workers Union of America, AFL-CIO, has announced withdrawal from all elections pending in the plants of Burlington Industries. The union campaign had been in progress for more than two years, and was centered primarily on the Virginia operations of the company.

**Cotton Council Moves.** The Washington, D. C., offices of the National Cotton Council have been moved to Room 502, Ring Building, 1200 Eighteenth St., N.W.

**No Interest in Textile Education?** Of 170 textile manufacturers who were recently sent questionnaires for information to aid tex-

tile education, only 16 responded, reports Philadelphia Textile Institute's President Bertrand W. Hayward.

**Show to Expand.** An additional 13,000 sq ft are being added to Textile Hall, Greenville, S. C., bringing the total space to 104,000 sq ft. The addition will be ready for the next Southern Textile Exposition, to be held October 6-10, 1958.

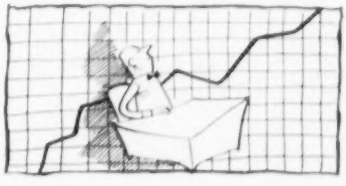
**Paper Bale Covers.** As part of its continuing program to develop a better covering for the cotton bale, the National Cotton Council is using a knitted paper fabric on about 500 bales this fall.

**Cotton Stocks.** The U.S. Department of Commerce reports a cotton carry-over, as of September 17, of 11,223,885 bales, including 9,775,678 bales in public storage and at compresses.

**USDA Wool Pilot Plant.** Completion is expected soon on a wool textile pilot plant at the U. S. Department of Agriculture's Albany, Calif., laboratories. The plant is being built with an appropriation of $105,000 for plant construction and $300,000 for equipment.

**Jersey Standards.** The Jersey Institute has adopted a set of quality standards to govern the sale and distribution of wool, wool-blend, and man-made fiber jerseys, covering plain, fancy, and novelty knits.

**Excessive Profits?** To counteract recurring charges of "excessive" corporate profits, Machinery and Allied Products Institute has published a 27-page booklet, "Corporate Profits in the Decade 1947-56," to show that: (1) Profits in the postwar decade were neither excessive nor abnormal; (2) Real-



profit margins are much thinner than before the depression; and (3) The current overstatement of corporate profits needs to be corrected. Copies are available at $1.25 each ($1.00 to MAPI members) from MAPI, 1200 Eighteenth St., N.W., Washington 6, D. C.

THE NEW FOUR-PLACE TWIN-ENGINE BEECHCRAFT

# Beechcraft Travel Air

*available for delivery starting in December, 1957*

## Quietest of all Business Aircraft

Maximum cruising speed at 75% power (2450 rpm), 200 mph at 7500 feet

useful load—1420 pounds

maximum range, with auxiliary tanks, 1400 miles

basic price $49,500.00

*For information or demonstration call or write:*

## Southern Airways Company

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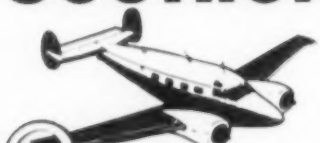



airfleet of the textile industry

**"Seamless" Full - Fashioned.** Chadbourn Gotham, Inc., has been assigned a U. S. patent (No. 2,806,-367) for producing full-fashioned hosiery with a seam which is much less visible than the conventional

seam. A panel of a different type thread, removable by chemical or other means, is knitted beyond the nylon selvage of the stocking. After seaming, the extra threads are removed, leaving a thinner, less bulky seam.

**NAWM Asks Quicker Depreciation.** The Internal Revenue Service's Bulletin F schedule of useful lives of depreciable property, now being revised, should permit more liberal depreciation rates for woolen and worsted machinery, the National Association of Wool Manufacturers has told IRS. Reasons cited were that multiple shift operation of wool mills has intensified operation of machinery, and that developments in synthetic fibers have triggered more rapid developments in manufacturing technology, dyeing, and finishing, and hence machinery obsolescence has been quickened.

**Fur Industry Seeks Labeling Protection.** Members of the fur industry have given support to an amendment to a bill, HR 469, to curtail the use of fur names in promotions for man-made fiber products. The amendment is to be introduced when the bill comes up for consideration in the next session of the Senate.

## News in Brief

**Underwear Firms Exhibit.** Several members of the Underwear Institute were among those from 18 national trade associations displaying articles manufactured under Commercial Standards in an exhibit in the U. S. Department of Commerce Building, Washington,

D. C., September 17 to October 17. The Standards are developed by manufacturers in cooperation with the Commodity Standards Division

## "Continued expansion and prosperity"—Rich

■ "The one economic cliché we hear most often today is that business is 'heading for a showdown.' This is the stock and meaningless statement made by the alarmists, the hand-wringers, the prophets of economic disaster to cover their own confusion over what seem to be conflicting elements in the business picture today.

"Personally, I believe this cliché should be dropped completely from business usage, for there is nothing in the economic outlook that presages anything but continued high business activity and an even further expansion of the nation's economy.

"Any summary of the current business situation must recognize, of course, that there are some adjustments being made. True, there is a decline in private housing construction. There is a modest slackening of industrial production. There is a scarcity of money and increasing pressures on profits.

"Yet, this same summary must stress such elements as sustained business investment, continued heavy outlays by federal, state and local governments, record-breaking employment and peak incomes,

Mr. Rich

which are translated into sustained consumer buying.

"These are clear-cut evidences that we are going through another period of 'rolling readjustments,' just as we have on several other occasions since the end of World War II. And, just as before, our economy will make these readjustments and push on to new heights.

"When we look at business as a whole and consider each element in its proper relationship to all others, we get a picture that shows continued inflationary pressures. . . For the long range, I can see nothing but continued expansion and prosperity.

"A confessed optimist at heart, I base this conclusion on such things as:

(1) The continued expansion of our markets through the increased birth rate and the continued migration of our rural populations to the cities

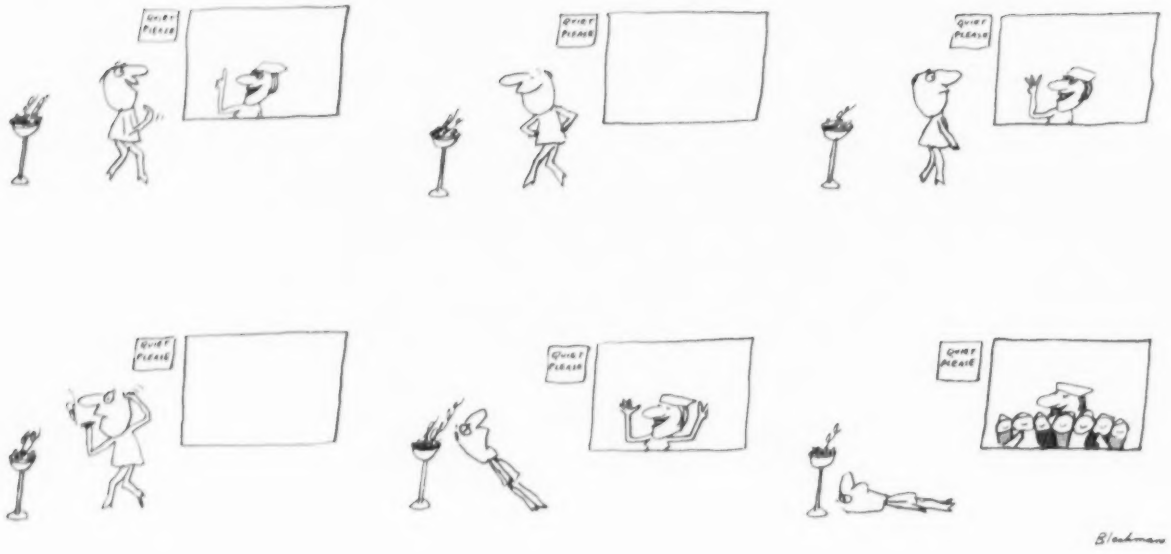
(2) The continued improvement in the American production technology

(3) The effect of electronic automation and atomic energy

(4) The continued and growing expenditures by government at every level."

*—Richard H. Rich, president, Rich's, Inc., Atlanta, Ga., and president, National Retail Dry Goods Association.*

# HAPPY ARRIVALS




## 7 new drapery colors in Courtaulds' Coloray*... all amazingly non-fading!

**AQUA, ROSE, SAGE, CRYSTAL BLUE, MOCHA, ECRU** *Non-fading after 500 Fadeometer hours, proving fastness six times better than the standard for drapery colors, L6 (which means no fading after only 80 hours). South Florida sun tests now being conducted.*

**DAWN PINK** *Non-fading after 160 South Florida sun hours, proving fastness equal to the standard, L7.*

For the special delight of the drapery trade, Courtaulds has developed a series of light, almost luminous pastels with extraordinary colorfastness to sun and light . . . and everything. Happy colors indeed! They bring the total of Coloray basic shades to 25. They skyrocket the number of possible Coloray blends into the stratosphere. For Coloray rayon staple blends in infinite ways to produce infinite color effects. And Coloray, being a soft spun fiber, contributes a luxurious hand to fabrics for draperies, upholstery, every facet of home furnishings and fashion. It's wonderful to work with Coloray!

COURTAULDS'

COLORAY

Solution-dyed Rayon Fiber With Captive Color . . . "Can't Escape!"

WHY SO COLORFAST? Because of Courtaulds' famous method of solution-dyeing. Color is poured into a viscose solution which flows into spinnerets and emerges as fully formed Coloray fiber. And inside, is that wonderful Coloray color. It's caged in. It can't get out.

*For further information, write:*
COURTAULDS (ALABAMA) INC., *first name in man-made fibers, first name in solution-dyeing*, 600 Fifth Ave., New York 20 • Greensboro, N. C. • Le Moyne Plant, Mobile, Ala.

of USDC. UI member firms exhibiting included Bestok Underwear Co.; H. E. Bradford Co.; Duofold, Inc.; E-Z Mills; P. H. Hanes Knitting Co.; Pannill Knitting Co.; Standard Knitting Mills; and The Vanta Co.

**Melt Process for Acetate.** A German firm, Spinnstoffabrik Zehlendorf AG, has developed a process for spinning cellulose acetate filaments from a melt of the acetate powder (acetate is normally spun from an acetone solution). The process is claimed to give increased tenacity and elongation as compared to the conventional method. Hercules Powder Co., Inc., holds the American patents.

**Dan'l Boone's Loom?** Chatham Mfg. Co. has been presented with an old hand loom, reportedly made about 175 years ago by Daniel

Boone. The loom has been stored in an Elkin, N. C., basement. Chatham will restore it to its original condition for display.

**AATCC Wants Fabrics.** The Committee on Drycleaning of the American Association of Textile Chemists and Colorists is asking textile firms to contribute fabric samples for use in developing a test for shrinkage in drycleaning. The Committee is asking for 15-yd cuts of fabrics known or suspected to be susceptible to drycleaning shrinkage, including felt, rayon-warp faille, chiffon, jersey, and many high-twist and off-loom constructions. Those who wish to donate samples should send them to the Committee chairman, Albert E. Johnson, at 101 W. 31st St., New York, N. Y., and should include construction details.

**Synthetics Committee Admits Japanese.** The international Rayon and Man-Made Fibers Committee, with headquarters in Paris, has admitted Japan as a member.

**Carpet Staple.** Courtaulds (Alabama) Inc., is planning production of a crimped rayon staple for the carpet industry, in 8 and 15 denier.

**Analyze Engineering Profession?** An organization chart of the engineering profession "would be a good organization for a rabbit warren inhabited exclusively by two-headed rabbits," says William F. Ryan, president of the American Society of Mechanical Engineers. By contrast, he said, an organization chart of the medical profession is so logical and efficient that

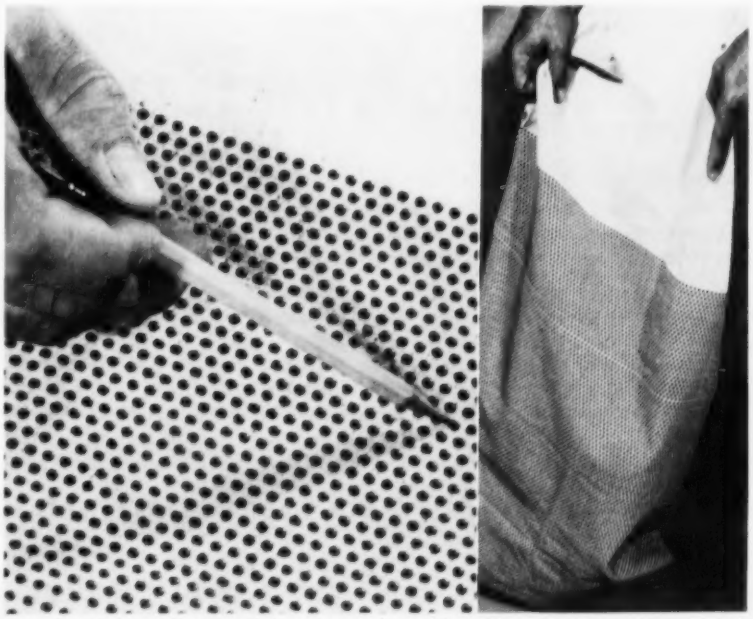
one would suppose it had been designed by engineers. He proposes a comprehensive, detailed survey of the engineering profession. Problems to be attacked include lack of group consciousness by engineers, lack of an accepted code of ethics, confused state registration laws, lack of genuine legal status, and problems in education.

## News in Brief

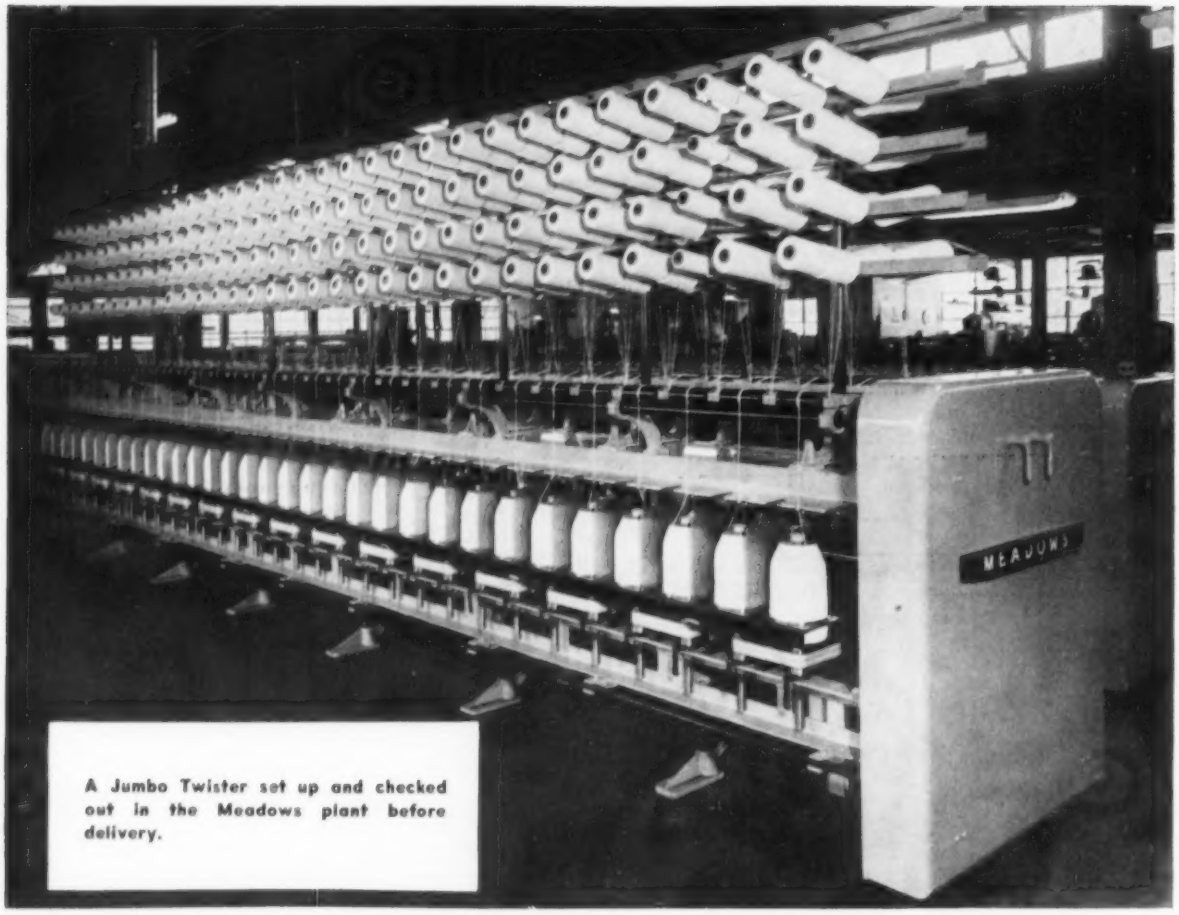
**Reactor for Georgia Tech.** A high-flux research reactor will be

constructed at Georgia Institute of Technology, Atlanta, with $2,500,000 of state funds.

**Textile Industry Confident.** W. J. Erwin, president of Dan River Mills, and chairman of the foreign trade committee of the American Cotton Manufacturers Institute, told a recent meeting of the International Federation of Cotton and Allied Textile Industries that the U. S. textile industry is confident it will expand its markets at home and abroad as the result of product development, promotion, and getting raw cotton at a competitive price. "We sincerely believe that the world's textile mar-



"Dura-Dot" is Bemis Bro. Bag Co.'s answer to the problem of the asphalt-bottom cotton pick sack. The old-type pick sack is believed to have shed asphalt into the cotton, which later turned up as tar spots in cotton fabrics. The dragging surface of Dura-Dot is coated with hundreds of plastic beads, which penetrate the surface. The sack is one-piece construction.




A Jumbo Twister set up and checked out in the Meadows plant before delivery.

# *A completely new, completely* ANTI-FRICTION JUMBO TWISTER by MEADOWS

This twister has a 10" gauge; 8" diameter ring; carries a bobbin 14" overall, 12" build. This means a 9 lb. package of knotless yarn on numbers as coarse as 8/8.

It is as completely anti-friction as a frame can be made. All gear-end studs and roll stands are ball-bearing. Individual drive pulleys and shafting are ball-bearing mounted. Double ball-bearing tension pulleys make reversing easy. Lifter rod bushings have been eliminated, replaced with anti-friction rollers. Even the builder motion is anti-friction.

It is a sturdy frame—of steel construction: base rails, roller beams, ring-rails, head and foot ends, doors . . . all are steel.

Our twister frames will run bobbins from 10 to 15 inches. They can be operated at higher speeds than any competitive twister. We can supply twisters from the smallest to the largest in gauge and ring.

If you have twisting problems, please contact us.

## MEADOWS MANUFACTURING COMPANY
## ATLANTA, GA.

ket can be enlarged greatly, and by so doing, a higher standard of living for the whole world will be attained," he added.

**Wool Tells Its Story.** "The Story of Wool," a 24-page booklet giving up-to-date facts about the fiber, has just been published by The

Wool Bureau. Copies are available at 10 cents each or 20 for $1.00 from the Bureau, at 16 West 46th St., New York 36, N. Y.

**Stretch Yarn Patent.** Grove Silk Co., Scranton, Pa., has been assigned U. S. Patent 2,796,655 for a stretch yarn (presumably Gro-Lon) which is knitted in a non-lively or dead condition, but which becomes lively in the fabric through a heat treatment.

**Japanese Information.** The Japan-U.S. Textile Information Service has been formed, with offices at 130 E. 59th St., New York, N. Y. The group will serve as a clearing house for information about the Japanese textile industry for businessmen, editors, and other interested persons.

**Ga. Mills Campaign for Textile Education.** The textile mills of

## News in Brief

Georgia, through the Textile Education Foundation, have started a grass-roots campaign to boost enrollment at the A. French Textile School of Georgia Tech. Kick-off for the campaign was a science teachers' seminar, held at the school, during which a group of Georgia high school science teachers heard talks on opportunities in the textile industry, and then were taken on a tour of the school. Speakers were Professors Tayler, Vidosic, and Nottingham of the Ga. Tech faculty, and George H. Dockray, executive editor of TEXTILE INDUSTRIES.

## MERCHANDISING NOTES

**A & P** food stores in four cities of the Southeast, and in Baltimore, are testing the sale of nylon hosiery in five supermarkets under the chain's own brand name, "Merrimood."

**American Viscose Corp.** is distributing a 16-page pictorial booklet, "How to Get and Keep Customer Confidence," to 15,000 manufacturers and buyers and merchandise managers in department and specialty stores concerned with carpets, domestics, and fabrics, to promote its Avisco Integrity Program.

**Chadbourn Gotham, Inc.,** will market its new, less-bulk seam full-fashioned hosiery (see page 81 of this issue), which it calls "Invisibles," under its "Gold Stripe" and "Larkwood" brands. The hosiery will be made initially in 60 gauge, 15 denier, and will retail for about $2. Deliveries to stores are scheduled to start about mid-November.

**Courtaulds (Canada) Ltd.** has announced a new rayon tire yarn, "Tenasco Super 401," which is claimed to give strength and fatigue resistance 20 to 25 per cent above present super high tenacity rayon tire cord.

**Custom Floor Covering Mills, Inc.,** has turned out a 25'7" by 85'6" tufted carpet, claimed to be the largest of its type ever made.

**A. & M. Karagheusian, Inc.,** gave carpet room measuring kits to visitors to its booth at the National Homefurnishings Show in September. The kit contained a 5-ft tape measure, graph paper with instructions, a booklet on carpet buying, and a folder for saving $10 in quarters as a down payment on carpeting.

**Munsingwear, Inc.,** is marketing a new knitted plastic fabric, "Vinray," for use in girdles and brassieres in place of steel boning. It is also expected to find use in millinery, shoes with soft soles, collar stays, and cap visors.

**National Association of Hosiery Manufacturers** held a week-long hosiery fiesta during September, in which six major New York department stores joined to promote the new dark hosiery shades for the fall season.

**Pro-Tex Process,** a New York cleaning plant, is offering customers a free analysis, by mail, of swatches from planned purchases of upholstery, drapery, rug, and curtain materials, and will advise whether they will stand up under wear and cleaning.

**Chester H. Roth Co.** has announced a sheer, 100 per cent nylon stocking which acts as a surgical stocking. It is called "Supp-Hose."

**Tufted Textile Manufacturers Association** laid plans at a recent meeting for a national consumer advertising campaign, "to educate the ultimate consumer as to the true value, the practical and economical uses of our products."

**Velveray Corp.** has started a promotion campaign based on a "Velveray Pattern-of-the-Month," which is chosen by a group of New York clubwomen.

**Wunda Weve Carpet Co.** has begun a national program of official franchised cleaners for its line of carpets, claimed to be the first time that such a program has been used in the carpet field. The program creates a cooperative sales and service effort by the manufacturer, retail stores, and the cleaners. * * * Wunda Weve has started a program of leasing new carpeting to business firms on a three-year basis, with option to buy for $1 at the end of 36 monthly payments.

*News about*

# B.F.Goodrich Chemical *raw materials*

## Minimum care fabrics stand roughhousing . . .

*when you blend resins with Hycar latex*

WANT wrinkle-resistant cotton and rayon fabrics that are soft and have good hand, yet strong and durable? Then, blend your melamine, urea or other resins with Hycar latex.

Replacing part of the resin with Hycar latex gives better softness of hand, tensile and tear properties, with no loss of wrinkle resistance. And during laundering, fabrics have greater resistance to shrinkage and crocking. Yellowing from chlorine absorption is virtually eliminated.

For information, write Dept. HF-6, B.F.Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

**USE HYCAR LATEX HERE FOR BETTER TEXTILE PROPERTIES**

Warp size . . . lasting abrasion resistance for cotton, rayon, denim
Aftertreatment . . . reduced crock, improved wear life
Dye Bath . . . more uniform colors
Starch Blend . . . improved rayon seam strength
Resin Blend . . . greater crease resistance in cotton, rayon
Bonding Material . . . for non-woven fabrics, screen printing inks

**Hycar**
Reg. U.S. Pat. Off.
*American Latex*

**B.F.Goodrich Chemical Company**
**a division of The B.F.Goodrich Company**

**B.F.Goodrich** GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

## News in Brief

**Retailers Optimistic.** Department and specialty stores expect to wind up the last half of 1957 with at least 3 per cent more business than in the similar period of last year, according to a survey made by the National Retail Dry Goods As-

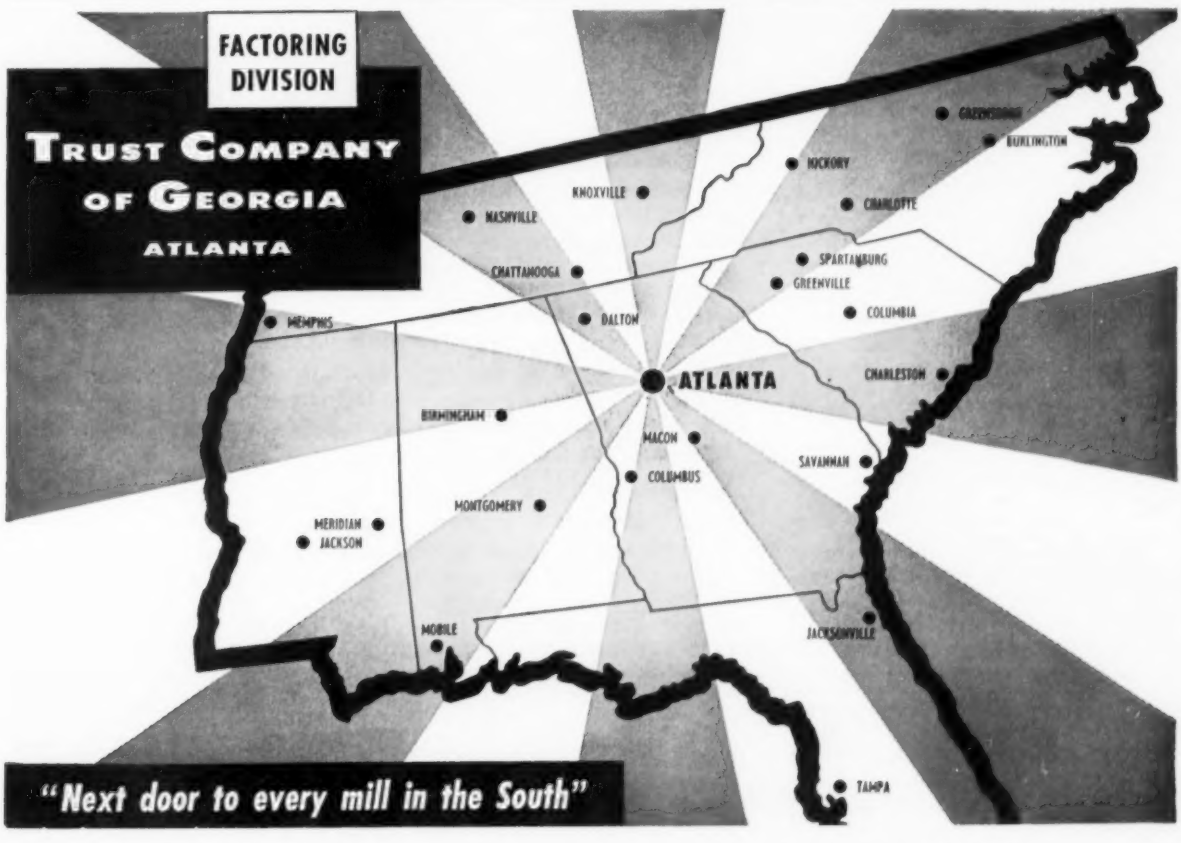
sociation. General ready-to-wear, infants' and children's wear, and sportswear are expected to pace the volume increases; women's suits, coats, and accessories; men's wear; and home furnishings are also expected to show gains.

**Textiles for LA?** Fessenden Blanchard & Morrell have completed a comprehensive survey of the feasibility of primary textile mills in California, particularly in Los Angeles, center of the West Coast's burgeoning clothing industry. Detailed statistics are presented on the apparel industry and other users of fabrics, data on secondary markets, transportation and freight costs, California cotton, building costs, state and local taxes, and water and power facilities. The report was prepared for the Mayor's Committee for the Development of the Textile and Apparel Industry, and copies may be obtained from the chairman of the Committee, I. Bud Whiser, 1024 Maple Ave., Los Angeles 15, Calif.

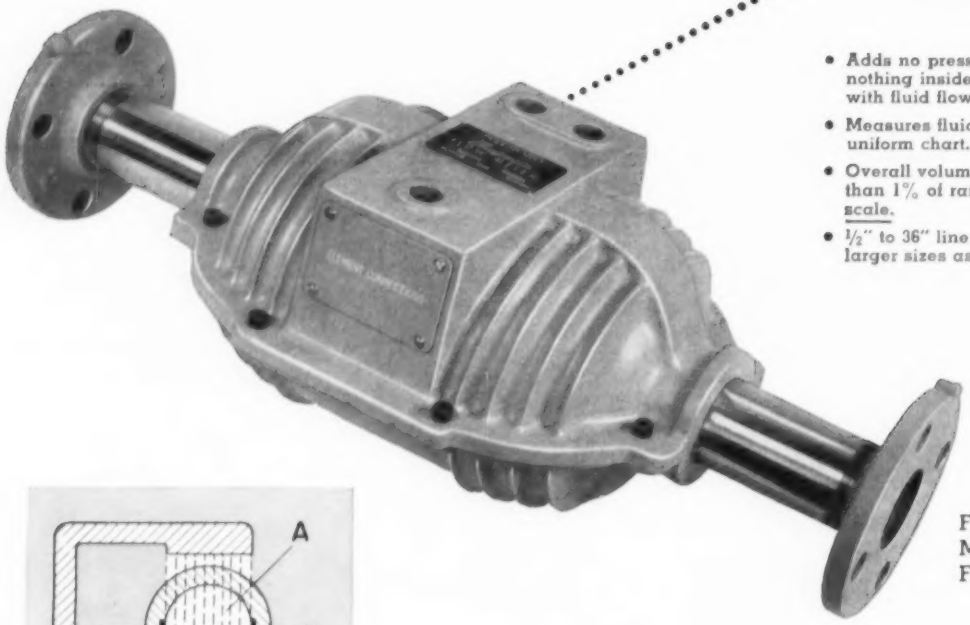
**Import Danger to Tufteds.** Tufted carpets and rugs from Japan and Belgium which have recently appeared on the American market are the forerunners of a flood of imported tufteds, it is feared by the Tufted Textile Manufacturers Association. TTMA's legislative committee recommends that Congress be pressed to give the indusrty increased tariff protection, and that the manufacturers of machinery for tufted textiles be urged to prevent American tufting machinery from getting into the hands of foreign competitors.

**Textiles in Cost-Price Squeeze.** "The movement of textiles into consuming hands has been well maintained and dollar sales volumes of fabric weavers are running close to the figures of a year ago. Profit margins, however, have been ground down between rising production costs and persistent weakness in selling prices. Some important companies have been compelled to reduce dividend rates. . . The downward drift of textile prices . . appears . . to have stemmed from the superior attraction of other products for the consumer's dollar. The proportion of

*(Continued on page 124)*

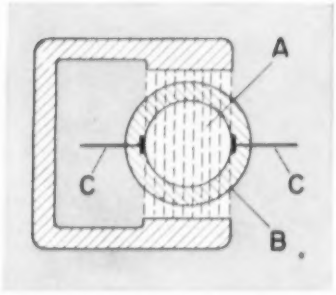


# NOW! a flow meter with no flow restrictions!



- Adds no pressure drop — nothing inside pipe to interfere with fluid flow.
- Measures fluid velocity directly on uniform chart.
- Overall volumetric accuracy better than 1% of range over entire scale.
- ½" to 36" line sizes standard — larger sizes as required.

FOXBORO MAGNETIC FLOW METER




**SIMPLE, TROUBLEFREE, OPERATION**

The Foxboro Magnetic Flow Meter operates on the same principle as a power generator. A magnetic field (A) is maintained through a standard pipe section (B) of stainless steel or other non-magnetic material. This pipe section is lined with Kel-F® or other insulating material. Liquid passing through pipe acts as moving conductor, generating an electric voltage which varies in proportion to liquid's average velocity. Flush electrodes (C) in pipe wall "pick up" this voltage which is recorded in desired flow units by Dynalog Electronic Recorder or Controller.

**For corrosive chemicals, dye liquor, latex, mill waste effluent, and other textile mill liquids of any consistency** — this entirely new-type meter accurately measures flow *magnetically*. It completely ignores such common metering headaches as turbulence, suspended solids, and variations in conductivity, density, and viscosity. It even measures reversing flows! The ½-inch meter is ideal for small, critical flows of acetic acid and other costly liquids.

**Installation** is simple. The magnetic spool piece connects into the line like any equivalent length of pipe — no seals, purges, meter runs, or straightening vanes required. Connects by standard cable to remote Dynalog Electronic Recorder.

**Maintenance** is practically eliminated. There are no pressure taps to become plugged or frozen, no working parts to foul.

For complete details of the Foxboro Magnetic Flow Meter, write for Bulletin 20-14B.

**THE FOXBORO COMPANY, 4811 NEPONSET AVENUE, FOXBORO, MASS., U.S.A.**

**FOXBORO**
REG. U. S. PAT. OFF.

**First in FLOW METERING**

# AN EXECUTIVE Views

## THE NEWS IN TEXTILES

*Prepared by a man who is closely identified with the textile industry.*

# How to ruin cotton

WE RECENTLY had our attention drawn to a clipping about a new lint cleaner for cotton gins, together with a diagram of the cleaner. Strangely enough, if this picture is turned on its side, you can readily see that what the inventor has produced is a card licker-in, and if the invention was worked out as described in this clipping, it is one of the most remarkable coincidences in the long history of coincidences.

Carders the world over have known for a hundred years or more that the action of a licker-in is injurious to cotton, but nobody has figured out a better way of feeding a card. For structural reasons, the new cleaner has the feed rolls in a vertical position; whereas cards feed the lap in horizontally. The cleaner has five mote knives instead of the customary two knives used on card lickers-in.

I don't suppose that in developing his lint cleaner the inventor familiarized himself with the Gordon-Hay machine. This was developed by Bernie Gordon, the agent of the Skenandoa Cotton Co. in Utica, N. Y., and apparently this Mr. Hay furnished some of the ideas. It was an auxiliary licker-in, and practically the same thing as the new lint cleaner. This was brought out some 40 years ago, and hundreds of them were installed in cotton mills, and the same hundreds were later taken out because they did just what any other licker-in will do—they did a lot of cleaning, but they ground up what they didn't take out and left the mill to contend with finer trash than it started with.

IT IS indeed a tragic thing that a Department of Agriculture, politically controlled and anxious to be momentarily helpful to the farmer regardless of the ultimate disastrous effects of its policies, would permit a thing like this to be put in cotton gins without actively fighting it. The history of the saw-type lint cleaner is tied right in with the government in the cotton business. Since the Department of Agriculture has to prop up the price of cotton to keep the farmers happy, and this propping is done by the Department of Agriculture affording a market for cotton, it is highly desirable to maintain as good a nominal grade for the cotton as is possible.

Obviously, if the taxpayer is going to be soaked for propping up the price of cotton, he should have to prop it as short a distance as possible, and by using an archaic grading system which is practically meaningless today, the Department of Agriculture can let ginners use any ruinous equipment they choose to use that will take trash out of cotton.

Anybody connected with the textile industry knows that a licker-in will clean cotton. The people that put in the Gordon-Hay machines knew it, but experience showed them that this auxiliary licker-in did the same kind of damage as the main licker-in, and as far as I know there is not one of these Gordon-Hay machines left on a card. There may be some of them still in operation for opening and cleaning strips, which they did very well, but as cotton cleaners they were universally condemned. The few mills that tried to keep on using them after most of them had been thrown out finally had to dispense with them when this gin damaged cotton came along, and the natural proclivity of this Gordon-Hay cleaner was accentuated when partially fragmented stuff was presented to it.

IT SEEMS to me an outrage that a cotton cleaning method known to be injurious by every spinner in the world is approved by an agency of our national government. When these saw-type cleaners first came out several big cotton mill groups tested them carefully. All of these mills flatly condemned the saw-type cleaner, and it was what was known as the "flow-through" type, which was practically harmless compared to this new cleaner, which employs a feed plate.

One mill owner told me that he had to take his out almost immediately, because it was about to ruin his spinning and weaving. He was running India cotton, and if one of these things could have been expected to handle any kind of cotton without injury, it would have been that short India cotton.

Another mill chain had used these early type lint cleaners in their absorbent cotton plant, and based on my observations of those machines I had rather expected the other to work without too much trouble, but the owner stated

# Say "Good-by" to finishing problems!

## Use Procter & Gamble's famous softeners and lubricants!

There's a good reason why so many top-flight finishing plants all over America have switched to the Profines. And it's this: the Profines consistently give the results you want in finishing threads, yarns and fabrics. They help eliminate finishing problems, help you turn out fabrics that look, feel, sew and sell better!

Try one or more of the Profines in your plant and see for yourself.

**TODAY'S MOST ADVANCED FINISHING AGENTS**

Profine

...Paste
...Special Paste
...Flakes

### Provide All These Advantages...

- Tremendous anti-static and lubrication properties.
- Full effectiveness at extremely low temperatures.
- Complete ease in making and using permanent solutions.
- Outstanding scorch resistance . . . elimination of discoloration, yellowness, odor development.

### Assure Finest Finishes for All Fabrics!

The Profines work to perfection on all types of threads, yarns and fabrics, man-made or natural! A fabric finished with Profine has all the properties you want it to have—full-bodied smoothness, anti-static action, lubricity. And, equally important, the Profines are always uniform in quality . . . always dependable. When you use a Profine, you can count on every yard of thread, yarn or cloth having the same finish, the same hand!

**The Procter & Gamble Textile Representative in your area will be glad to give you all the facts about Profine. Or, if you prefer, write to: Procter & Gamble, Textile Finishes Sales Department, Cincinnati 1, Ohio.**

Profine

Developed and made by Procter & Gamble . . . Recommended by outstanding fiber manufacturers . . . Used by leading finishing plants . . .

**FOR SMOOTHER TEXTILE PROCESSING, USE P & G'S OLATE, PROXOL, ORVUS AND KYRO PRODUCTS**

most emphatically that the thing would have ruined his mill if he had kept on using it. Another mill now uses theirs occasionally for opening strips.

It seems incredible that a Department of Agriculture faced with such concrete proof of the textile industry's violent disapproval of this type of cleaner would have consented to having it come into general use. Insult is now being added to injury by putting these new cleaners in tandem. The theory evidently is that since one of them does so much damage, a second one can't do much harm.

THERE IS now in prospect a machine designed on this general principle which has been dubbed a "trash hider." It has been demonstrated that you can put cotton through one of these cleaners without taking out a particle of trash, and raise the grade according to a government cotton classer. Cotton classing is still done on the ancient basis of considering visible trash, and if you grind the trash up fine enough so that it is not readily visible, and at the same time fluff up the lint so that it has a beautiful whipped-cream appearance, the cotton classer will give you a higher grade and more money for the cotton, although every bit of the trash is still in the bale and in such condition that no spinning mill could get it out.

Of course, these lint cleaners do take out a lot of trash, but the impending "trash hider" may not take out any, or a tiny token amount.

The brutal part of this whole fraudulent system of cleaning cotton is that not only do the American spinners get swindled by paying for a quality of cotton they are not getting, but the whole thing is backfiring on the entire American cotton crop. It seems that the Department of Agriculture is doing everything it can reasonably be expected to do to destroy a foreign market for American cotton. So long as American cotton was better than other cottons, foreign spinners would pay the necessary premium to get it.

During the past several years we have had a good deal of correspondence with foreign spinners, and some of these have visited us. They bring the same story—that American cotton is getting neppier and speckier and harder to spin into decent yarn, while they are getting their premium cottons elsewhere.

I have friends in practically every mill in Canada, and most of them are now on Mexican cotton. This cotton is hand picked and ginned normally. Much of it is better than American cotton grown right across the border, but snapped or sledded and put through these lint cleaners. It is also cheaper. Some of our Canadian friends also use Brazilian cotton, and some of the foreign mill men do likewise. Some German spinners say that the best cotton they get comes from Africa, and I have seen some German carded yarn with a lot less neps in it than our best combed yarn.

The tactics of our Department of Agriculture would apparently in time destroy our export market for cotton. We can only hold that market on quality so long as we insist on artifically jacking up prices. In order to move cotton surpluses anyhow, the government is subsidizing the export of cotton, which has some rather idiotic side effects. The taxpayer is soaked to put up the money for the subsidy. The foreign mill can buy the cotton cheaper than the American mill. It has cheaper labor costs. The government then lowers the tariff so that the foreign mill can more readily ship into this country goods made from cotton subsidized by the American taxpayer.

I DON'T KNOW what can be done about this practice of damaging cotton and charging mill people a fancy price for doing the damage, but something certainly does need to be done about it. So long as the government is in the cotton business, I am convinced that nothing can be done except through an upheaval on the part of the American spinning industry. So long as the spinners are suckers enough to pay a premium for cotton that won't make as good yarn as lower grade cotton properly

## What about textile imports from Hong Kong?

■ THE QUANTITY of cotton cloth received in the United States during the first six months of the year was 59 per cent less than the amount received during the corresponding period last year, information from the Bureau of the Census indicates.

Of the 68.8 million square yards of goods imported, 21.1 million yards were unbleached, 3.5 million were bleached, and 44.2 million printed, dyed, and colored.

Japan was the principal supplier of unbleached cloth, furnishing 16.3 million square yards. In the corresponding period last year 29.6 million yards were imported from that source.

Second largest supplier of unbleached goods was Hong Kong, with nearly 2 million square yards. Total imports of this item from Hong Kong in 1956 amounted to only 439 pounds, the Bureau pointed out.

In second position last year was India with a six-month total of 3.75 million square yards. Yet, only 270,000 yards have come from that country in the same period this year.

Noteworthy in this connection is the volume of woven apparel and knit goods revealed by a textile trade association's tabulation of cargoes arriving in the port of New York from Hong Kong during a recent two-week period.

"The precipitous rise in imports from Hong Kong during 1957 follows the Japanese precedent in late 1955 and 1956," said an association official. "Presumably the fabrication of these articles is done in Hong Kong, but there is no final assurance against transshipments through that port. . . ."

## Humming a Song of Sixpence

The *steady* hum of textile machinery is a money-making tune . . . essential music in today's operations. High taxes and heavy replacement costs just don't allow a margin for shutdowns and repairs caused by faulty lubrication.

Assuring the steady hum of textile machinery by supplying *exactly-correct* lubricants has been the business of Standard Oil for 71 years.

Backed by the world's largest combined facilities for petroleum research and testing, Standard Oil has developed a full team of textile lubricants, each designed to do a specific job. The result is tailored-to-the-job lubrication that makes a profitable hum in any textile operation.

STANDARD OIL LUBRICANTS

**STANDARD OIL COMPANY** (Kentucky)

cleaned would make, nothing can be done about this situation.

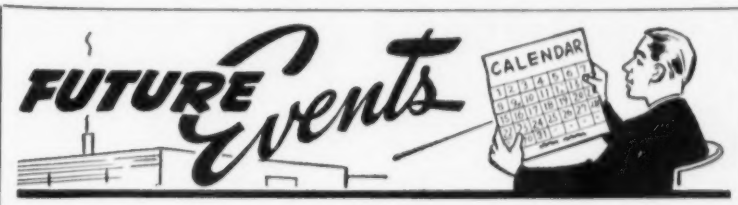
We must always remember that the farmer doesn't give a hoot whether we can spin the cotton or not, and neither does the ginner. Presumably the Department of Agriculture doesn't care either. But for the government being in the cotton business, I doubt very much if these injurious lint cleaners could ever have been installed, because then the Department of Agriculture would have been in a neutral position; and when spinners began complaining about government grades not being what they were supposed to be, the department would almost certainly have done what they did years ago when the re-gin first came out, and had the law on ginners that installed these machines.

As far as I know it is still illegal to tender re-ginned cotton without tagging it as such, but today over half the cotton crop is re-ginned and it is all legal because the Department of Agriculture defined re-ginned cotton as that which has been baled and then opened and put through the re-gin. If you put it through the re-gin on the way to the bale from the gin, by some magic the re-gin is no longer a re-gin, but a lint cleaner, and is legal.

One of the biggest cotton merchants in the world fought these re-gins for years, and one of their officials in telling me about his experiences in this fight, wound up by saying, "We were convinced that you can't fight the government." That company is pretty big, but it is not as big as the government.

That seems to be at the root of the trouble. One government agency is charged with too many different responsibilities about the cotton crop to be impartial in its attitude toward the ginning and marketing of the crop, and the American spinner is taking a terrible licking as a result of policies of the Department of Agriculture.

The foreign spinner doesn't have to take a beating much longer. He can get as good or better cotton for less money, and the only way to talk him out of it is to increase the export bounty on American cotton, which is an extremely stupid proposition. If American cotton can be sold abroad at a loss, and the loss paid for by the taxpayer, then inferentially any other American product could expect to sell abroad at a loss with the taxpayer making up the difference.




**1957**

| Date | Event | Location |
|---|---|---|
| Oct. 30-Nov. 1 | National Time & Motion Study and Management Clinic | Hotel Sherman Chicago, Ill. |
| Nov. 1 | Delaware Valley Section AATCC | Kugler's Restaurant Philadelphia, Pa. |
| 1 | Western New England Section AATCC annual meeting | Hartford, Conn. |
| 8-9 | National Association of Woolen & Worsted Overseers annual convention | Hotel Manger Boston, Mass. |
| 9 | South Carolina Div. STA 10:00 AM | Clemson College Clemson, S. C. |
| 14-15 | A.I.E.E. Conference on Textile Industry Applications | N. C. State College Raleigh, N. C. |
| 14-16 | AATCC National Convention | Hotel Statler Boston, Mass. |
| 18-21 | Air Conditioning & Refrigeration Exposition | Amphitheatre Chicago, Ill. |
| 22 | Hudson-Mohawk Section AATCC | Johnstown, N. Y. |
| Dec. 5 | Rhode Island Section AATCC | Johnson's Hummocks Grill Providence, R. I. |
| 6 | Delaware Valley Section AATCC | Kugler's Restaurant Philadelphia, Pa. |
| 6 | Niagara Frontier Section AATCC | Buffalo, N. Y. |
| 6 | New York Section AATCC | New York City |
| 6 | Northern New England Section AATCC annual meeting | Hotel Continental Cambridge, Mass. |
| 7 | Southeastern Section AATCC | Biltmore Hotel Atlanta, Ga. |

**1958**

| | | |
|---|---|---|
| Jan. 30-Feb. 1 | Textile Div., American Society for Quality Control annual conference | Clemson House Clemson, S. C. |
| Feb. 12-14 | Cotton Research Clinic | Carolina Hotel Pinehurst, N. C. |
| Mar. 6-7 | Textile Quality Control Association | Poinsett Hotel Greenville, S. C. |
| 18-21 | A.S.T.M. Committee D-13 spring meeting | Sheraton Park Hotel Washington, D. C. |
| Apr. 10-12 | American Cotton Manufacturers Institute annual meeting | Hollywood Beach Hotel Hollywood, Fla. |
| 16-18 | Alabama Textile Manufacturers Association annual meeting | Hotel Buena Vista Biloxi, Miss. |
| 21-22 | National Association of Hosiery Manufacturers annual meeting and Hosiery Industry Conference | Hotel Roanoke Roanoke, Va. |
| 23-26 | Cotton Manufacturers Association of Georgia | Boca Raton Hotel & Club Boca Raton, Fla. |
| 24-26 | Phi Psi Textile Fraternity annual convention | Philadelphia, Pa. |
| 30-May 1 | The Fiber Society | Clemson House Clemson, S. C. |
| May 1 | Underwear Institute annual meeting | Hotel Biltmore New York City |
| 6-8 | Canadian Textile Conference | Queen Elizabeth Hotel Montreal, Que., Can. |
| 19-24 | National Cotton Week | |
| June 4-7 | Tufted Textile Manufacturers Association annual meeting | Castle-in-the-Clouds Lookout Mountain, Tenn. |
| 19-21 | Southern Textile Association annual convention | Grove Park Inn Asheville, N. C. |
| Sept. 19-20 | Textile Quality Control Association | Hotel Barringer Charlotte, N. C. |
| 25-26 | Northern Textile Association | Wentworth-by-the-Sea Portsmouth, N. H. |
| Oct. 6-10 | Southern Textile Exposition | Greenville, S. C. |
| 15-25 | International Textile Machinery Exhibition | Belle Vue Manchester, England |
| 30-Nov. 1 | AATCC National Convention | Hotel Conrad Hilton Chicago, Ill. |

# POWELL—the most complete line of Alloy Valves* for Corrosive Services

Fig. 2194—Small Ni-Resist O.S. & Y. Gate Valve for 225 W.O.G. Larger sizes, flanged end, and swing check valves in Ni-Resist also available.

*Come... see us*
*at*
**BOOTH 133**
26th Exposition of
Chemical Industries
December 2 to 6
**COLISEUM - NEW YORK**

It's a fact . . . Powell offers more kinds or types of valves, available in the largest variety of corrosion-resistant metals and alloys, to handle practically every known corrosive fluid. The complete line includes gates, globes, angles, checks, "Y's", relief, flush bottom tank valves and others—for pressures from 150 to 1500 WP. A few are shown on this page.

Your local valve distributor will be glad to tell you all about them. If none is near you, write to us for the full facts on Powell Valves and Powell Engineering Service.

**THE WM. POWELL COMPANY**
*Dependable Valves Since 1846*
**CINCINNATI 22, OHIO**

**Powell Alloy (Corrosion Resistant) Valves are available with screwed or flanged ends. Flanged end valves conform to latest standards.*

Fig. 1832—Stainless Steel Gate Valve for 200 W.P. Screwed-in bonnet, inside screw rising stem, solid wedge disc.

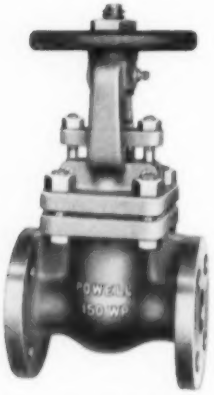


Fig. 2491—Stainless Steel Gate Valve for 150 W.P. Outside screw rising stem and yoke, solid wedge disc. Can be supplied with interchangeable split wedge disc

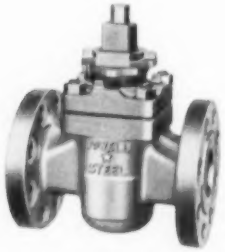


Fig. 1559—Steel Lubricated Plug Valve for 200 W.O.G. Screwed gland type. 6" and larger valves can be furnished for gear operation.

Fig. 1893—Large O.S. & Y. Gate Valve for Paper Mill Service. 3½ Nickel Iron Body, bonnet, yoke; stainless steel stem, screwed-in seat rings; Ni-Resist wedge.

Fig. 2433SS—Large size Stainless Steel Swing Check Valve for 150 W.P. Bolted Cap.

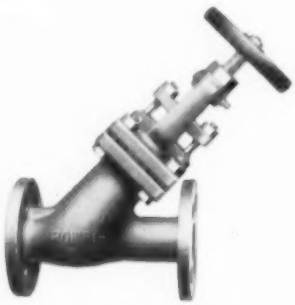


Fig. 2107—Stainless Steel "Y" Valve for 150 W.P. Plug type disc. Face to face and end flange dimensions conform to latest standards.

# MAINTENANCE for wet processing plants

NEW FINISHES, new fibers requiring new dyeing techniques, and new dyeing techniques for old fibers are some of the developments of recent years which have led to more complex machinery and higher speeds in the wet processing of textiles.

In preparatory operations, there has been almost universal acceptance of the continuous bleaching range; and in many plants, mercerizing ranges now operate at speeds above 100 yards per minute and include the drying operation as well.

In dyeing, the high-speed continuous range is responsible for most production; and in ageing, open soaping, and finishing, operating speeds have substantially increased, mostly through developments in machinery and equipment.

As further advances come about to reduce reaction time between fiber and chemical, as new drying concepts are evolved and translated into production equipment, as more rapid removal of mercerizing caustic from fabric is achieved, and so on, it is likely that operating speeds will reach much higher levels.

As mill-man Michael Stanley says on page 106, "The high operating speeds, however, have placed increased emphasis on the machine, and its proper maintenance has become a must if maximum departmental efficiency is to be achieved, particularly in round-the-clock operations."

The subject of maintenance in dyeing, bleaching, and finishing plants is a broad one; on the following fifteen pages TEXTILE INDUSTRIES presents four feature articles covering some of the major aspects of the subject.

Much more space could be devoted to this complex subject, and future issues of TI will continue to carry discussions of value to mill men.

However, it is hoped that the articles on the following pages touch on some factors, both tangible and intangible, which will cause management, the mechanical department, and the department heads to take another critical look at the maintenance responsibilities involved in high-speed operation.

These articles include a look at the planning and organization that enter into the preventive maintenance and modernization programs at one of the South's largest and most efficient bleacheries; a discussion by a wet processing plant manager of the department heads' responsibilities; and details of two specific maintenance problems — wet processing instruments and calender rolls.

# *Chemists and colorists to meet in Boston*

■ Boston's Hotel Statler is the scene on November 14-16 of the 36th national convention of the American Association of Textile Chemists and Colorists. Wet processing men and representatives of allied interests from all the textile areas of the U. S. and Canada will gather for three days of technical papers, exhibits, functions honoring distinguished textile men, and entertainment.

TECHNICAL SESSIONS include a textile waste disposal symposium on Thursday morning, November 14; a general technical session on Thursday afternoon; "A Glance Into the Future" on Friday morning; the annual intersectional contest on Friday afternoon; a group of papers on textile processing on Saturday morning; and concluding with a symposium on dyeing the synthetic fibers on Saturday afternoon.

In all, twenty-five technical reports will be presented during the six sessions, plus the contest papers entered by AATCC's various sections. Since only one technical program is in session at a given time, registrants will be able to listen to all papers in which they are interested, without conflicting with other sessions.

EXHIBITS will be presented in the Georgian Room and parlors on the mezzanine floor of the Statler by firms in the dyeing, chemical, and fibers fields. There will also be exhibits by the AATCC's Research Committee.

THE OLNEY MEDAL award will be presented this year to P. J. Wood, technical director for Royce Chemical Co., Carleton Hill, N. J., for outsanding achievement in the field of textile chemistry. The medal will be presented to Mr. Wood at a luncheon on November 15.

TOURS have been arranged for members and guests to visit AATCC headquarters in Lowell, QM Research and Engineering Center in Natick, MIT Textile Division in Cambridge, Fabric Research Laboratories in Dedham, and other points of interest.

Top rubber rolls on wash boxes are refinished at every opportunity, as required, on a continuing basis (usually on week-ends). Grinding is done in the shop on a lathe. Spares are used for replacement while the rolls are ground; a complete record is kept on each roll.

# MAINTENANCE: How it's planned at Union Bleachery

*Roving maintenance crews handle routine repairs and preventive maintenance; major maintenance and repair problems are carefully planned for the midyear vacation shut-down period*

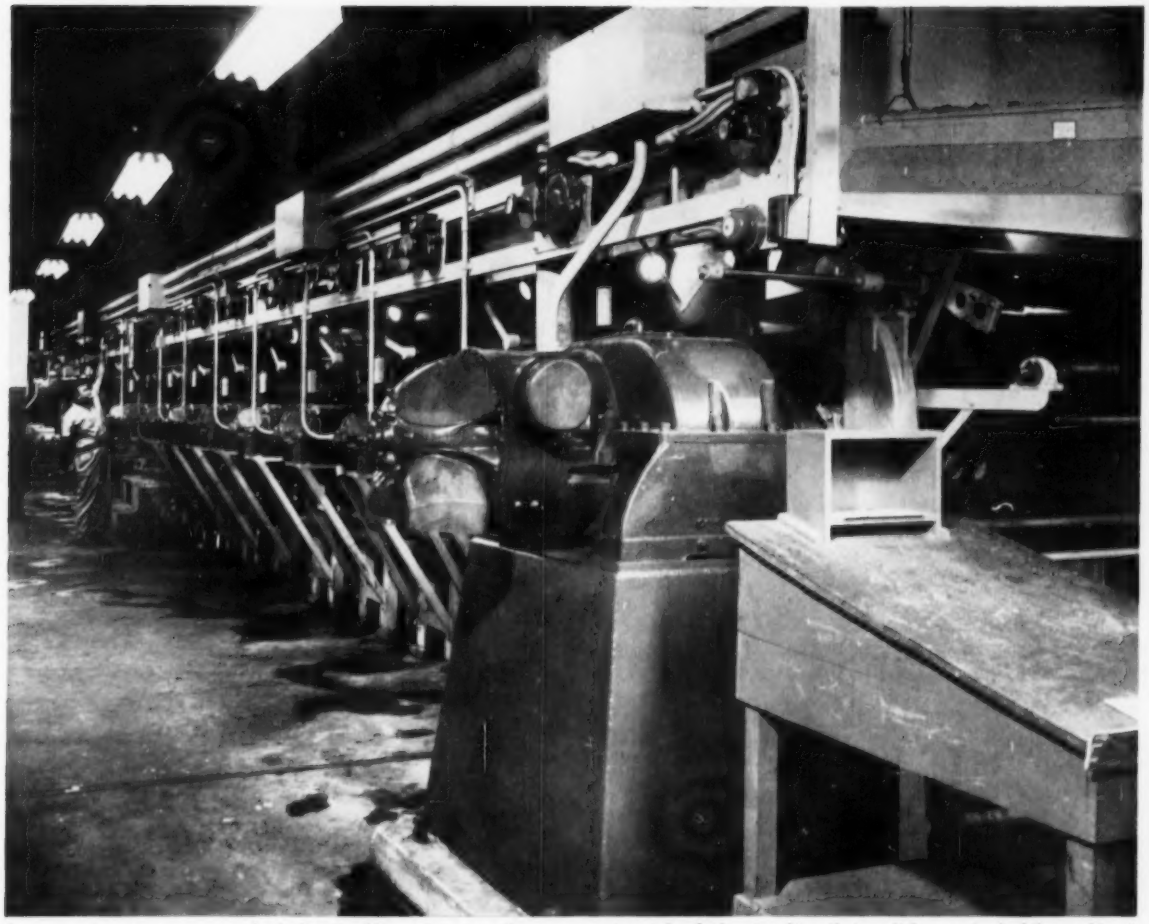
Staff prepared Exclusive

*Photos by Coxe Studio, Greenville, S.C.*

THE MAINTENANCE staff is organized to do a planned job in handling routine maintenance and repair problems at Union Bleachery, Greenville, S. C. Preventive maintenance crews operate out of the machine shop and go hunting for difficulties while the processing machines are in operation.

The roving crew members report directly to the crew leader, who in turn reports to the supervisor of each department any trouble found in the respective departments that can't be repaired while the machine is running. A written report of the trouble is submitted to the superintendent of maintenance, Roy Aiken, who includes the item in his plans for work to be done at first production idle period.

The roving crew members continually work on machines that

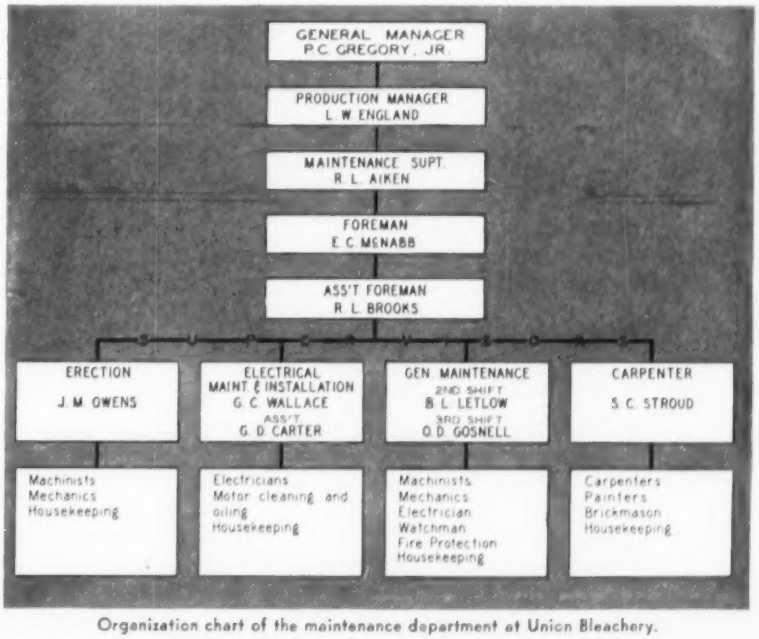


Roving maintenance crewman looks for trouble spots on continuous dye range in making a tour and examining all machines in the department for faults. Anything that can't be repaired while machine is running is reported to the department supervisor for later action.

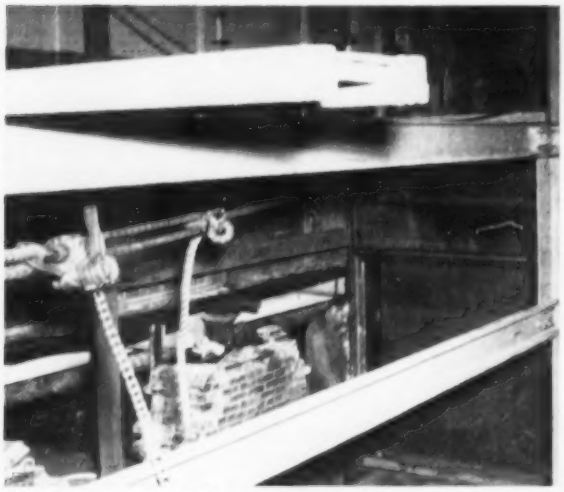
can be repaired while in operation. No report or work requisition is needed for such on-the-spot repairs.

MAJOR MAINTENANCE and repair problems are carefully planned and scheduled to be completed with a minimum of delay during the annual midyear vacation period, during which production is suspended and machines are idle. All materials and labor are secured ahead of time to preclude any delays in obtaining the necessities for doing the job on an accelerated schedule.

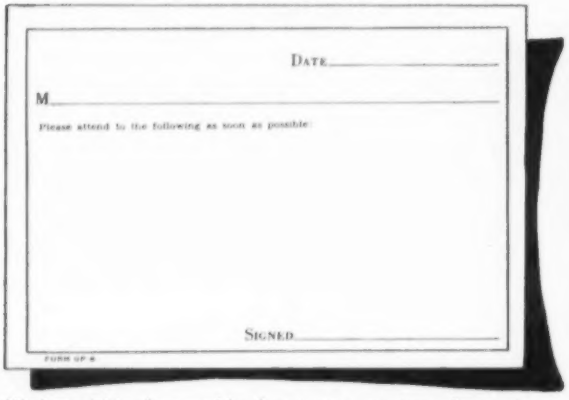
About ten days in July every year serve both for vacation and annual shut-down for most major repairs to be done. When the machines stop, work begins immediately, materials and labor having been arranged for previously. Any machine relocation or installation




Organization chart of the maintenance department at Union Bleachery.



Steel framework erected for a curing oven. Equipment is in place for straightening the framework to insure that oven is rigid and level.



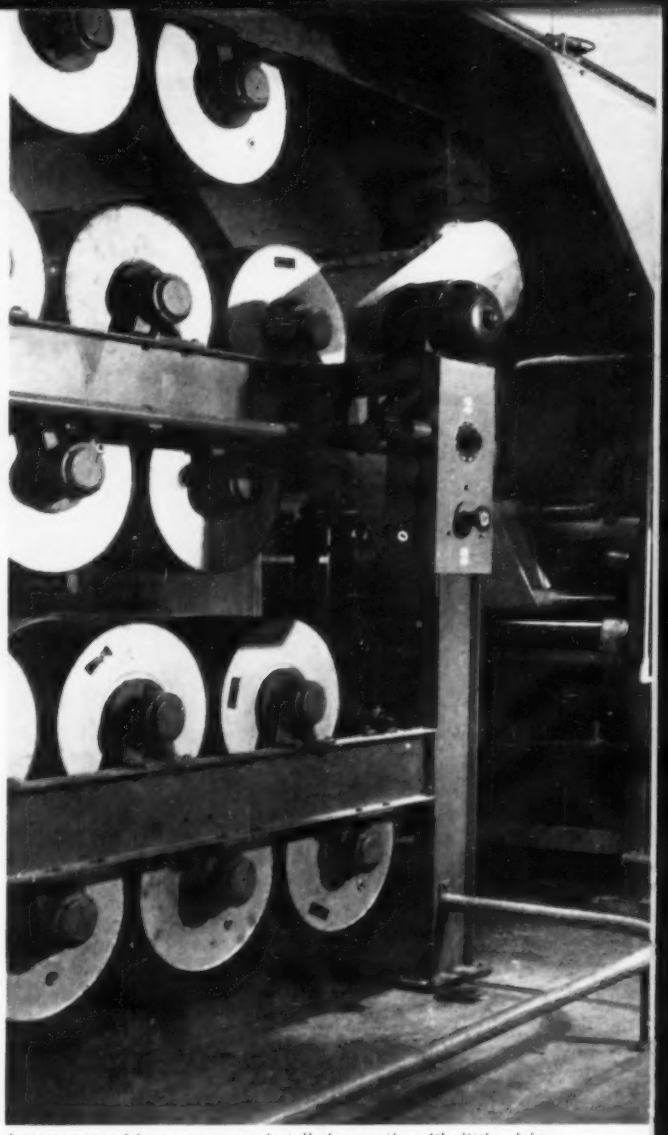
DATE_____

M_____

Please attend to the following as soon as possible:

SIGNED_____

Work requisition form used by department supervisors when service or maintenance is required. A requisition is not mandatory for all work.



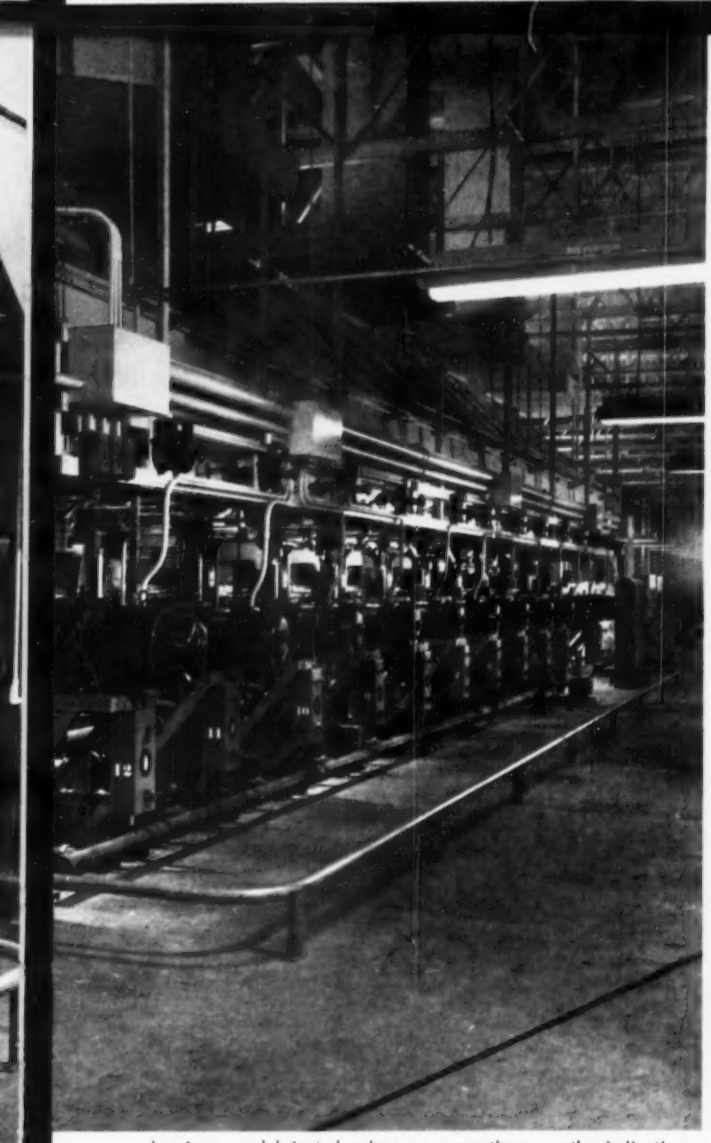
A new mercerizing range was installed recently with little delay. Dry cans usually require lubrication once each week; carrier roll

Extensive repairs are done on planned basis to insure least interruption of production. Here, all flooring is removed for installation of reinforced concrete floor (about 3 years ago).

is planned for the idle period. Painting is carefully planned to allow ample time for erection of scaffolding and removal of scaffolding after the job is done.

Jobs requiring specialized equipment and personnel are contracted to outside firms. For example, stack work and repairs are handled by a contractor, who also takes care of any stack painting that may be necessary.

ROUTINE MAINTENANCE is confined largely to preventive maintenance crew activities and those jobs that are booked on work requisitions submitted by department heads. A mechanic in each department takes care of routine lubrication. The mechanic works out of the machine shop on



bearings are lubricated only once every three months, indicating a complex lubrication schedule. Maintenance department sets schedules.

Corroded water pipes and beams were removed from under dyeing department, were replaced with new and more modern materials.

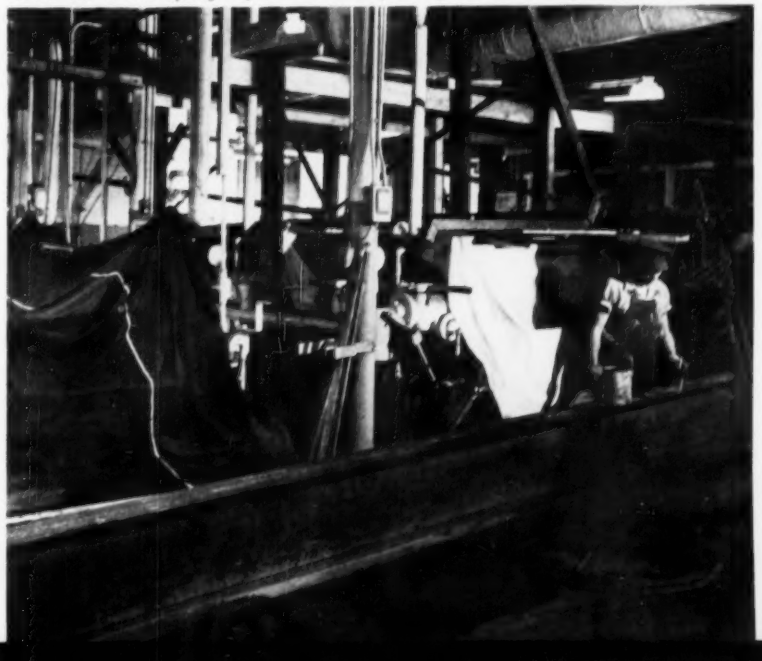
Old dye jigs were removed to make room for new equipment. New machinery was put into operation with minimum production delay.

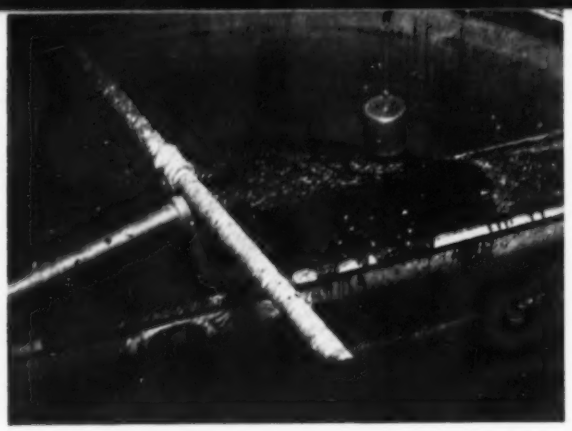
assignment to a specific department. Lubrication schedules are established by the maintenance department, and the mechanic uses discretion to be certain no oil or grease gets on cloth in process.

Dry cans require lubrication once each week; carrier roll bearings on dye ranges and mercerizer ranges require lubrication only once every three months. These instances serve to show the variation in lubrication intervals.

The production superintendent, maintenance superintendent, assistant superintendent, and the shop foremen confer and decide what is to be done and the priority to be assigned to each job scheduled. Sometimes orders are passed along on an impromptu basis, and the jobs are done

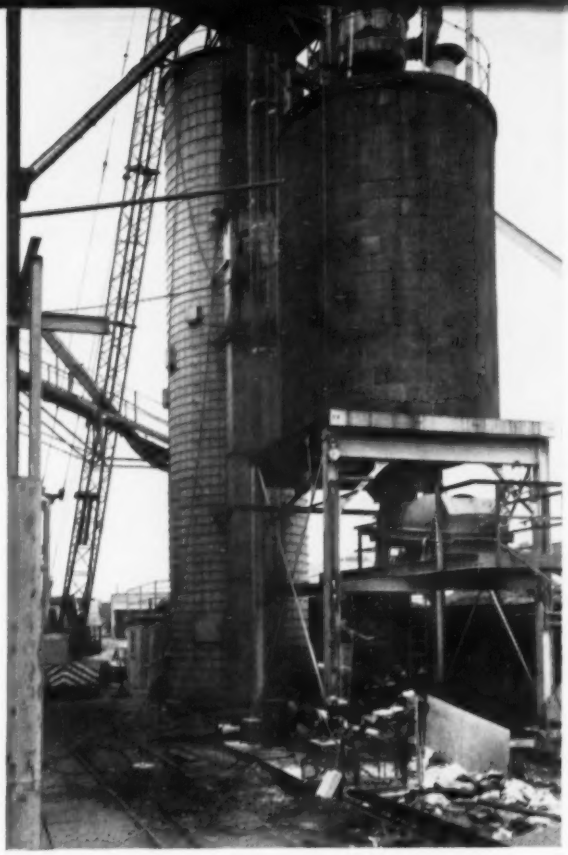
New I-beam is painted with a protective coating before being installed to replace one which rusted out in the dyeing department. Most painting is done during extended shut-downs.





Filters in the caustic soda recovery system are washed as often as conditions require. This work is done by the operators of the system.

Caustic recovery storage tanks must be painted on the outside. The inside is washed periodically to prevent accumulations of sludge.



Repair work on coal elevator includes installation of new dustless ash unloader under silo; it reduces amount of dust escaping to air.

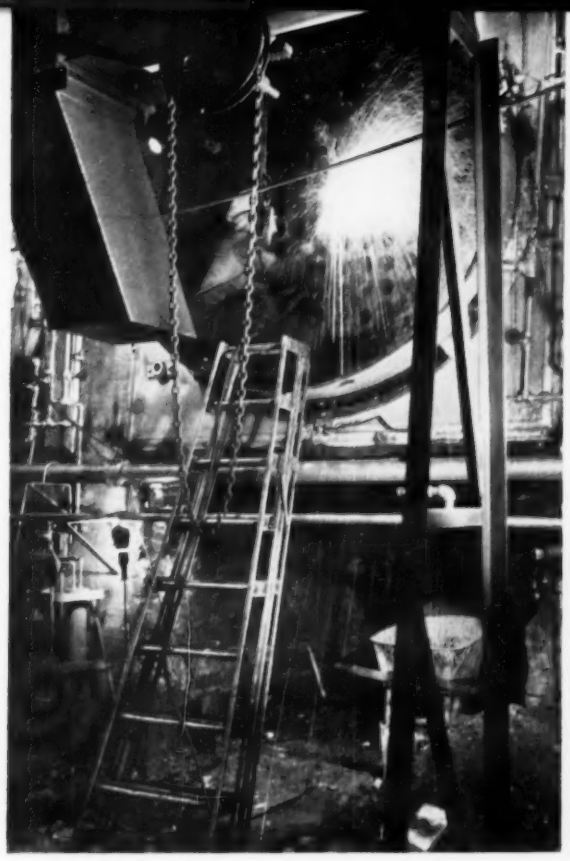
Part of recent installation of new equipment for recovery of caustic soda. Evaporator tubes are checked every six months. Photograph shows two evaporators and a flash condenser.

at first opportunity with minimum disturbances to production and delivery schedules. Repair requisitions are sent in well in advance of shutdown to permit the necessary planning and procurement of materials to be sure work is done and completed satisfactorily within the scheduled shutdown.

RECORDS are kept of each major piece of equipment in the plant. The records are on convenient and easy-to-handle index cards, and the accurate and complete record of every repair on each machine provides a history sufficient to show downtime and cause.

The description of repairs indicates weakpoints and excessive loss of man-hours, thereby permitting better planning. For example, excessive bearing failures would require a study which might indicate the need for using a different type of replacement bearing to withstand the heavy duty application without giving trouble and costly delays in production.

The roll manufacturers work closely with plant personnel and cooperate in improving the rolls



Maintenance man cuts tubes out of old horizontal return tubular boiler for its removal before installation of new, modern boiler.

During boiler modernization, five 231-hp boilers were removed. They were replaced by a new boiler rated at 75,000 lb of steam per hour.

Repairs and improvements in the finished goods warehouse trucking area provide improved facilities to speed transportation of cloth.

in accordance with production and use demands. On file is a complete life history of each rubber covered nip roll, including those used on mercerizer range, dye ranges, and calender rolls in all applications. The plant is credited with the most comprehensive records found in this phase of their maintenance program.

THE MAINTENANCE DEPARTMENT operates under the name of the machine shop which is in effect the nucleus of maintenance at Union Bleachery. The maintenance superintendent reports to the production manager and/or the general manager.

The maintenance superintendent is also in charge of the power plant in this mill. Under his direction come the machine shop foreman, assistant foreman, second and third shift supervisors, and on the day shift a chief electrician, carpenter supervisor, and machine crew supervisor. There is a total of 62 men included in machine shop organization (see organization chart on page 97).

Water treatment plant gets a painting when needed, which averages about once in two or three years. Cleanliness in the plant and new paint are obvious in this photo of interior.

Instrument company service engineers perform periodic maintenance work under a service agreement. A. W. Holland of Foxboro's New England office adjusts CycleLog temperature controller on piece dye kettles, Bachmann-Uxbridge Worsted Corp., Uxbridge, Mass.

# MAINTENANCE: Wet processing instruments

*Proper installation is the key to trouble-free operation*

by W. H. Ridley

*Manager*
*Textile Industries Division*
*The Foxboro Co.*

Exclusive

INDUSTRIAL instruments—the type used in wet processing operations—are engineered to carry out their measuring and controlling functions for many years with relatively little maintenance attention.

Just how much maintenance is needed depends to a great extent on how the instruments are installed. Proper installation is so important that it strongly suggests a new approach to maintenance of mill instrumentation. Instead of regarding instrument maintenance wholly as a problem to face after the instruments are installed and the process is running, the accent should be on preventive maintenance—stopping trouble before it can happen.

Preventive maintenance, to be effective, must start before the instrument is even in the mill. In fact, if the "install-to-prevent" theme is carried out as fully as it should be, it must be considered at the time specifications are being written for the instruments. Or, even earlier, when the initial plans are being made to apply an industrial instrument to a processing machine.

Service reports prove the wisdom of including installation details in instrument planning. Time after time when a quality instrument fails or gives considerable trouble, it is discovered that little thought was given to installation. Usually it results from insufficient planning. Yet, some service problems can be traced back to a lack of appreciation of what the instrument is supposed to do. Others reflect carelessness; still others, a misconception of installation procedure.

IN ADDITION to planning the installation early is the matter of planning it well. If the instruments are properly installed, regular maintenance needs are reduced to a minimum and can be easily han-

dled by the mill itself and/or a service engineer from the instrument company. Where few instruments are involved, it is better to have the service engineer call periodically to check and service them. A greater number can best be maintained by a qualified person in the mill.

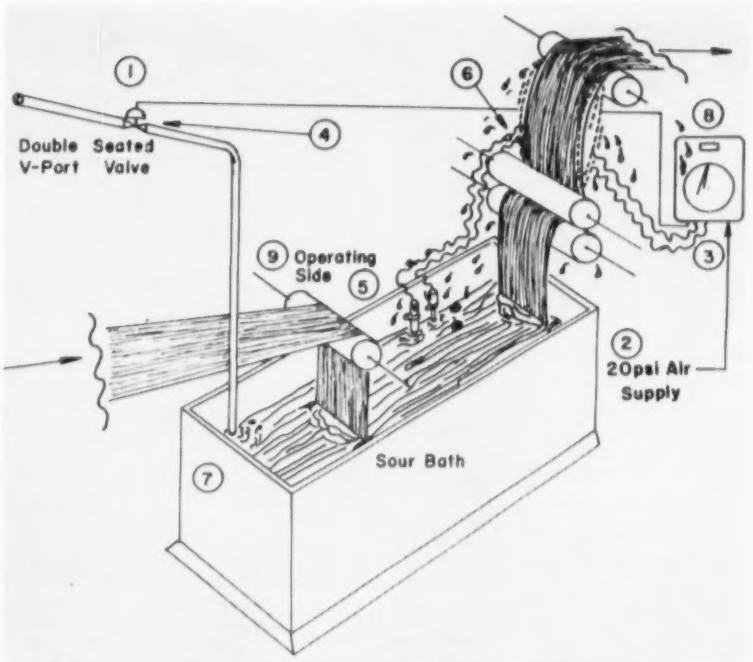
To help train the latter, instrument companies offer complete training programs to which customer's men are invited. But whether instrument maintenance is on contract or handled by the mill, the service man's work is mostly nullified unless the installation has been properly made.

Any of several installation details, if neglected, will cause trouble later on. These details are usually well covered in the installation instructions provided by the instrument maker. When they are not carefully adhered to, instrument downtime is almost sure to follow, with consequent inefficiency caused by inoperative measurement or control.

For instance, instructions will point out that an instrument for wet process application should be located far enough away from the process machines so that it will not be splashed by process liquids. Vibration from machinery is also a factor, eventually affecting instrument performance.

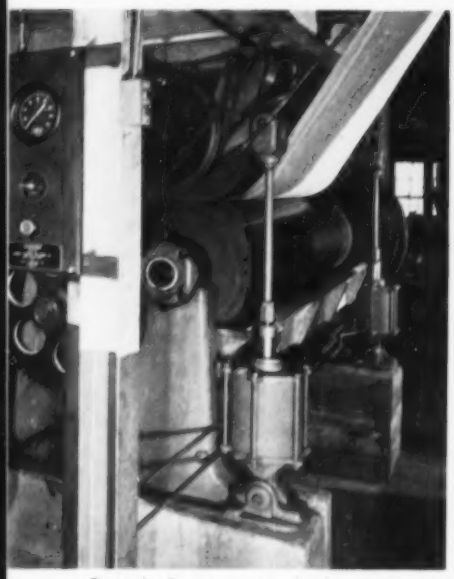
Control valve placement is similarly important. The valve should be accessible for inspection and any necessary service work. So often the valve is virtually surrounded by other operating equipment, and cannot even be checked without shutdown and extensive dismantling.

WHERE TEMPERATURE is recorded or controlled by instruments with filled thermal systems, highly dependable measurement is assured, providing reasonable precautions are taken in running the tubing from the bulb at the process to the recording or controlling instrument. In the better systems, this tubing is Type 316 stainless steel, the same material used in the bulb. However, if the tubing is installed so that it is supported by a bare iron pipe, a steel nail or other metal object, a condition is created




A maintenance man's nightmare is this conception of a poorly installed control system on a sour bath. 1) Wrong-type control valve will not shut off tightly. 2) No provision has been made for manual control of valve through air supply regulator and switch. 3) No air filter is supplied to prevent compressor moisture, oil, and dirt from reaching instrument circuits. 4) Sloping line for acid admission will continue to drain after valve has closed, causing overstrong solution. 5) Electrodes are not protected against splash and damage from cloth entering squeeze rolls. 6) Lead wires are not protected by conduit. 7) Acid enters below level of bath. Pipe should terminate in a funnel so acid can be seen. 8) Controller is too close to wet cloth. 9) All instrumentation, with the exception of the controller, should be installed on the side of the tank opposite that used by the operator. This gives the operator room to work and protects the equipment from possible damage.

Properly installed valves and measuring elements in acid makeup control installation of Standard-Coosa-Thatcher Co., Chattanooga, Tenn. Acid admission pipe is at right, has "gooseneck" construction for immediate shutoff. At upper right is water admission line, properly by-passed at control valve. Three probes at center sense tank level; electrode holders are protected from splash by plate. At left center is conductivity cell, shielded by a metal guard and accessible for cleaning. Air mixing line and valve are seen at left.



Controls for pneumatic loading equipment are located on a small protected panel, and the panel is firmly bolted to a steel beam. Compressed air is supplied to the cylinders through rigid piping rather than tubing.

Properly removed from piece dye kettles which they control are these cabinet-mounted CycleLog temperature controllers at Waumbec Dyeing and Finishing Co. Division of Waumbec Mills, Inc., Manchester, N. H. The cabinet serves as a control center and affords ideal protection for the instruments. Note guard rail around the cabinet. Doors at the rear provide access for service. The installation was carefully planned for minimum maintenance.

that may lead to system failure.

All too frequently, examination of an inoperative system will show leakage at the exact point where tubing contacted the metal support. The metal-to-metal contact in the wet atmosphere of the plant causes electrolytic action; a pinhole forms and the system becomes completely defective.

Splashing of chemicals from the machines is no less a maintenance-maker than the corrosive vapors in the immediate process area. One of the best ways to prevent internal corrosion is to house the instrument in a totally enclosed cabinet. Such a structure has the additional advantages of protecting the various electrical and pneumatic connections and providing a central control station where instrument accessories and related control equipment such as signal lights and pushbuttons can be located. Instruments are easily serviced, accessible from the rear of the cabinet.

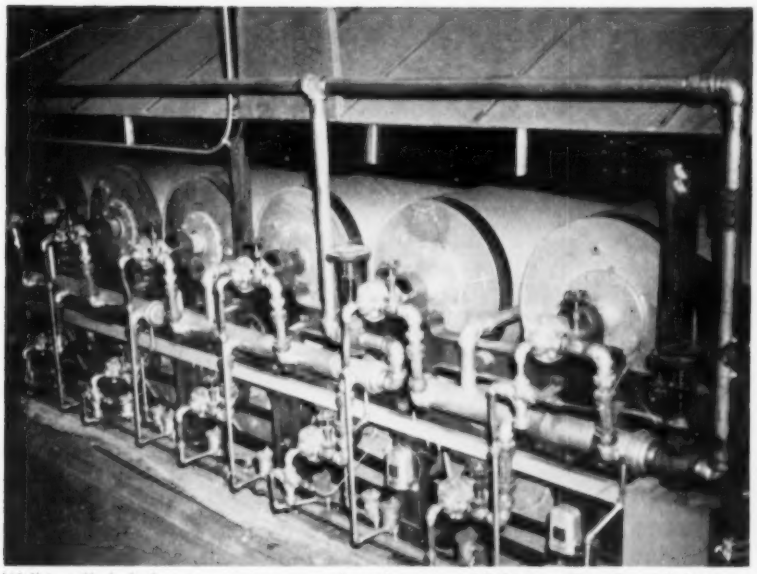
Another cause of corroded components is, oddly enough, the end-of-shift or weekend shutdown. Despite the fact that each instrument is carefully gasketed, vapor-laden air in the process room will enter the instrument case when the door is opened for chart changing and other purposes. When the plant is down, the air in the instrument cools off along with the rest of the room. In the winter fairly low temperatures are sometimes reached. This causes condensation inside the instrument and resulting deterioration. When planning installations where such conditions are likely to occur, it is well to specify the addition of an internal heater strip which automatically supplies a small amount of heat when the instrument is shut down for the night or weekend. In this way, condensation is prevented.

A COMMON FALLACY with respect to electrical and electronic instruments involves the standard length lead wires on measuring elements supplied by the instrument manufacturer for detection of pH, Redox, conductivity, and similar variables. Some feel that it is better to run uninterrupted wire from element to instrument than to

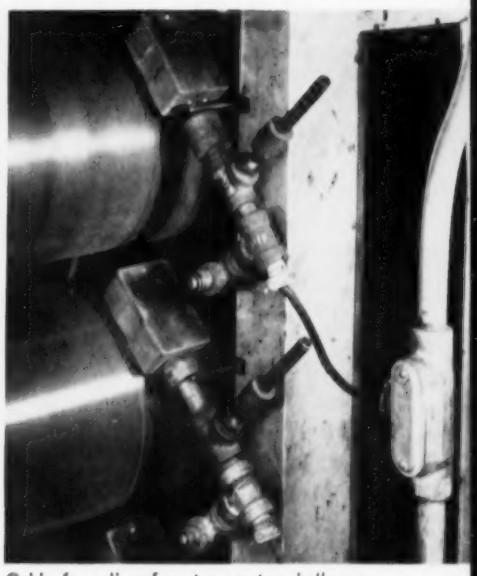
## INSTRUMENT MAINTENANCE REQUIREMENTS

Maintenance requirements depend on number of instruments in the mill. Rough guide shows some of the factors which must be considered.

| NUMBER OF INSTRUMENTS | NUMBER OF INSTRUMENT MEN | SHOP | | SHOP EQUIPMENT | CLERICAL EQUIPMENT | STOCK | TRAINING |
|---|---|---|---|---|---|---|---|
| | | SIZE | FIXTURES | | | | |
| 25 OR LESS | NONE (SERVICE CONTRACT WITH INSTR. MFG'S.) | NONE | NONE | NONE | FILES FOR INSTR. DATA (BULLETINS, INSTRUCTIONS, REPAIRS, LOCATION) | DEPENDENT ON INSTR. TYPES AND NEEDS | NONE |
| 25 TO 200 | ONE (UP TO 100) TWO (OVER 100, WHERE APPROX. 75% ARE CONTROLLERS) | UP TO 10' x 10' | WORK BENCHES, WATER, AIR AND ELEC. SOURCES; GOOD LIGHTING; STOCK BINS; LOCK ON DOOR | HAND TOOLS, CALIBRATION STANDARDS | AS ABOVE PLUS FILES FOR STANDARDS INFORMATION AND INSTR. CROSS-INDEX | AS ABOVE | PERIODIC TRAINING BY INSTR. MFGS. |



Well-installed slasher temperature control equipment at Hightstown Rug Co., Hightstown, N. J., has all instrument tubing "ganged" in protective metal channel. Note temperature transmitters at lower right with measurement and air supply tubing extending to the horizontal housing above. Valve tubing is also run in channel housing for protection against damage. Inexpensive ounces of preventive maintenance save costly pounds of cure at this mill.



Cable for roll surface temperature bulbs on nylon heat setting machine at Kenyon (R. I.) Piece Dye Works, Inc., is installed with enough slack to allow for moving head. Removable back plate makes cleaning easy.

use the standard length supplied with the element. This is not so. The standard length should be run in conduit to a terminal strip in an enclosed junction box. Conventional lead wire, also in conduit, is connected to the standard leads at the box and completes the run to the instrument.

With this arrangement, a worn out or broken element can be quickly replaced without disturbing the rest of the wiring. The conduit recommendation is important because the wiring is thereby protected from chemical and mechanical damage. Unprotected wires could be snagged and broken by moving cloth, splashed by chemicals, and shorted out by repeated rubbing on the edge of the tank.

How these general installation suggestions are applied to prevent future trouble can be seen in the application of a concentration controller and valve to an acid souring bath following the cotton mercerizer or desize section. The purpose: to keep the bath at proper strength by controlling admission of strong acid.

Properly installed, this instrumentation functions extremely well with very little attention. The instrument should be located away from splash and fumes. The conductivity cell which detects bath strength should be installed in that area of the tank where a true measurement can be obtained and protection against cell damage is assured. The same factors apply to placement of the accompanying temperature bulb which compensates the instrument reading of conductivity for variations in temperature. Both elements should be out of the way of the operator so that he can have room to thread and trouble-shoot when a tie-up occurs.

The step-by-step procedure to insure a trouble-free installation of this sort is well worth the extra time it takes. When the application is planned and instrument specifications are being written, mill engineers should look at the proposed installation area with the representative of the instrument manufacturer. Agreement should be reached as to the location, preferably accompanied by a sketch to show installation details. The representative will help by showing sketches and photographs of other typical installations. He will also advise on optional types of instrumentation to meet special situations.

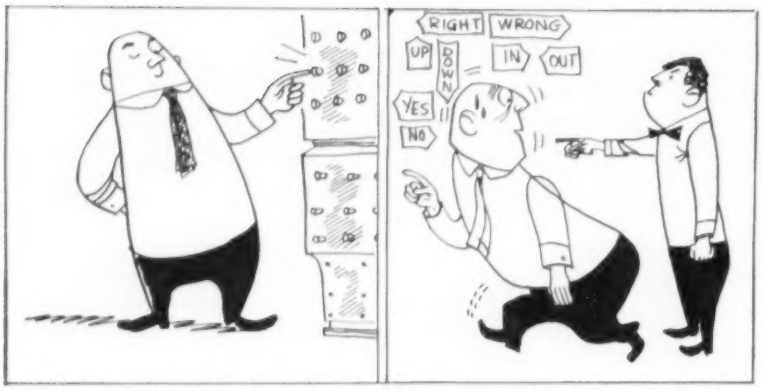
When the instrumentation is received and ready to be installed, the detailed sketch should be followed carefully. Instruction books sent with the instruments should also be consulted. If questions remain, they should be taken up with the instrument manufacturer. If the mill does not have a man trained by one of the instrument companies to install and service instruments, it might be advisable to have an instrument company service engineer supervise and take part in the installation work.

With this preparation, preventive maintenance is well under way. The details of maintaining the instruments while they are in operation are minor by comparison and can be easily handled by the mill or a service engineer.

A poor installation can ruin the instruments, as happened in one dye house, in as short a time as four years. Proper installations of the same instruments in other mills have already passed the ten-year mark with next to no maintenance.

The choice is up to the mill itself: inexpensive ounces of prevention or costly pounds of cure.

# MAINTENANCE: What is the department head's responsibility?




Some department heads run their own show; others act only on instructions from the brass.

by Michael Stanley

Exclusive

ADVANCES in technology and developments in machinery and equipment have brought about higher operating speeds in the wet processing of cotton fabrics. In the last twenty years the trend to higher speeds and stream-lined operation has affected nearly every department in the bleachery and print works.

The high operating speeds, however, have placed increased emphasis on the machine, and its proper maintenance has become a must if maximum departmental efficiency is to be achieved, particularly in round-the-clock operations. Although much planning is evident in the manufacture of equipment for a given operation from a preventive maintenance standpoint, much sound thinking remains to be done by the plant before equipment selection and installation take place.

*Who Is Responsible for What?* Much depends upon the size of the plant and the particular department's functions, and the plant manager's policies (which might stem from his own background and experience) as to how much responsibility for maintenance is fixed at the departmental-head level. Generally speaking, however, the departmental head will carry out casual and periodic inspections of his equipment, report potential trouble spots, maintain good housekeeping and lubrication routines, request repair work, and so on.

To begin with, there are two general types of departmental heads: those who are inclined to "run their own show," with a minimum of help from above; and those who act only upon instruction from above. While the latter type probably has smoother working relations with the mechanical department, it is the former who is of greater value at the conference table when a new piece of equipment is to be purchased or a new line of fabrics is to be introduced and consideration must be given to machinery and equipment requirements.

*Preventive Maintenance Begins with Installation of Equipment.* Rather than to generalize on the subject of maintenance, it might be well to discuss the functions of the departmental head and some of the factors which concern him and with which he should be concerned, by choosing a department and a specific piece of equipment in a cotton print works, namely an open-soaping range. And because selection and installation of equipment play a big part in maintenance, let us assume that an additional soaping range is required, and consider some of the major factors involved.

An open soaping range may be required to perform at least three functions: the development of colors, soaping-rinsing, and drying. Along with these, it also may be used for the desizing operation and for some of the after-treatments to clean up printing and other defects.

It is essential, then, first to establish requirements for the range: What weight fabrics will be processed? What color classes are currently employed in the print works (and others that may be taken on in the future)? At what speed is the range to operate? These factors are obviously interrelated.

Further, it might be well to think of the unit as an emergency piece of equipment in the case of lengthy breakdowns in other departments. The equipment may have to be used on occasion for the development of piece-dyed aniline black; or as mentioned above, for desizing operations and the like. These factors may seem outside the departmental head's area, but much hardship can result later on if he is suddenly called upon to process an unusual fabric or carry out a process on a machine not suited for the purpose.

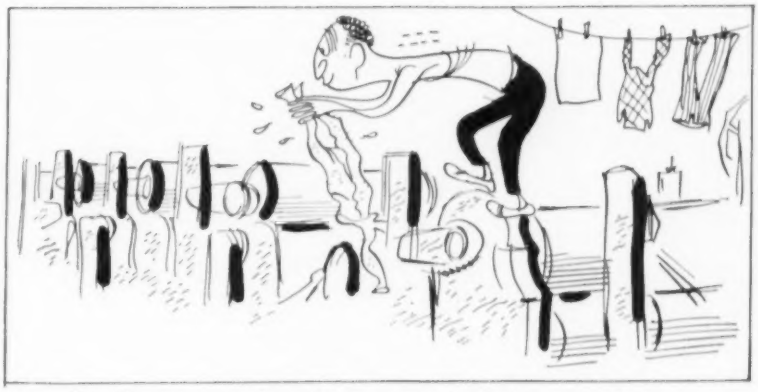
Print plants that employ a fairly large number of color classes and printing systems must take them into account when building a soaping range, for they have a direct bearing on length of range, equipment requirements, and hence on maintenance. The plant that uses principally pigmented - emulsion systems has less to be concerned with from the standpoint of soaping requirements; as a matter of fact, it is common practice not to soap fabrics printed exclusively with pigment colors.

The plant that is using vats exclusively, or intends to use the range for that class of colors alone, has a more clearly defined course. In this case consideration must be given only to development of colors, to soaping-rinsing (a thorough soaping is required), and perhaps to desizing, if this operation is to be carried out on the range. Some consideration should also be given to the recent advances in vat color printing which utilize emulsions as printing thickeners—these require only a minimum amount of soaping and no desizing.

The plant that is using stabilized azoics, aniline black, vats, soluble vats, and perhaps other printing systems as well, has a different set of requirements to meet. Oxidation of vats and aniline black, for example, must be thorough; the soluble vats, if sulfuric acid is to be one of the developing mediums, require lead-lined equipment and feed tanks and more adequate provisions for rinsing to remove acid from fabric in a shorter time.

Another factor that influences efficient operation will be the location of the range. Presumably, it will be located where the materials handling to and from the range will be at a minimum, and where ample space is afforded to provide access to all parts of the range for ease of inspection, lubrication, and maintenance.

Other requirements, such as drives—the trend is away from the long shaft running parallel to the range and to the individually motor driven compartment—motor requirements, etc., are the mechanical department's responsibility. The installation of instruments and their location on the range should be carried out cooperatively between production and mechanical departments and instrument supplier.



Versatility is an essential consideration in selecting machinery for a bleachery.

Machinery should be located so as to keep materials handling at a minimum.

Assuming that a range has been installed that best meets requirements, either by the plant mechanical staff or by manufacturers, and found after sufficient trial runs to be in proper alignment, it is turned over to the production department. How successfully the range will perform afterwards over a long period of time will depend on how well a maintenance program has been planned for it and how well this is carried out. Aside from the electrical equipment, including motors, instrumentation and the like, which are of greater concern to the mechanical department, the departmental head will be concerned primarily with the following:

Inspection and operation of the machine

Lubrication

The care of stainless steel and other metals

The care of rubber rolls

*Inspection and Operation of the Range.* There is a tendency on the part of departmental heads to take a recently installed machine for granted, simply because it is a new piece of equipment. While it is true that inspection in the early months of operation is not so critical, nevertheless, it should not be neglected, and stepped up as the range is used. In addition to a casual inspection of equipment, a thorough inspection should take place weekly when the equipment is down for cleaning and repairs.

What should the departmental head look for? When the machine is down for cleaning, lubrication, etc., the first step is to thoroughly check those areas that are difficult to get at during the production week. These areas are usually the first sources of trouble. The inspection should point to the replacement of excessively worn parts (bearings and such) that will con-

tribute to the wear and tear of whatever component they are a part.

The need for proper machine alignment is important no matter what class of fabrics is being processed. The common 80 x 80 print cloth presents least difficulties in processing, for it seems that it can be stretched and somewhat distorted and still arrive at the finishing table in a pretty fair state. But other fabrics require proper roller alignment, particularly, and must be processed under uniform tension without creasing.

Perhaps the biggest factors that contribute to excessive wear and tear of a machine are over-loading, over-speeding, and improper lubrication. These are self-explanatory. It is assumed that the range has been built for a certain range of fabrics and that its top speed has likewise been established. It is advisable to operate high speed machinery if possible at somewhat under the maximum speed without sacrificing production volume, for the operation of a machine at its top speed cannot offset time lost by frequent stoppage due to poor seams, operator inattention, and the like.

*Lubrication.* When the range is turned over to the departmental head, lubrication instructions should be presented to him in writing, covering every part of the range, with a listing of lubricants to be used and the frequency of lubrication indicated. Afterwards, it is up to the departmental head to see that these are carried out.

It may be wise to have some lubrication jobs carried out by the mechanical departmental staff; as, for example, the lubrication of the can driving chain (if one is used). A difference of opinion can arise as to the amount of lubrication required and whether it is properly carried out by the production department personnel.

*The Care of Stainless Steel and Other Metals.* There is no machinery building material used for such a diverse operation as soaping of print goods of many color classes, that does not require attention and care—and the stainless steel which is used in many applications is no exception. The rules to be followed in its proper care and maintenance are basic: It must be inspected and kept clean.

With the variety of color classes that may be used requiring essentially acids, alkalies, and oxidizing agents in development and/or in after-treatment, it is difficult to determine which product or chemical and under what conditions, most adversely affects the metal and creates a corrosion problem. It is doubtful that chemicals used in color preparation contribute to corrosion of metal in open soaping, for these have undergone reaction in ageing and for the most part have been destroyed or altered.

*The Care of Rubber Rolls.* As mentioned earlier, it is essentially the mechanical department's responsibility to equip the range with rubber rolls of the proper density and raw material—but in consultation with the production department. It is also wise to consult with rubber roll manufacturers.

As to the degree of squeeze desired on the fabric, there are three locations on a soaping range where a tight squeeze is required. Obviously, enough pressure must be used on the first nip to draw the cloth through the range. In addition, a tight squeeze is essential here if development chemicals such as sulfuric acid are used, to retain maximum amount of chemical in the box so that less rinsing will be required in subsequent processing. The second location is in the next-to-last compartment, where it is also advisable to hold back as much as possible of the soaping liquors. And finally, in the final rinsing compartment a heavier squeeze is desirable so that only minimum water is carried by the fabric.

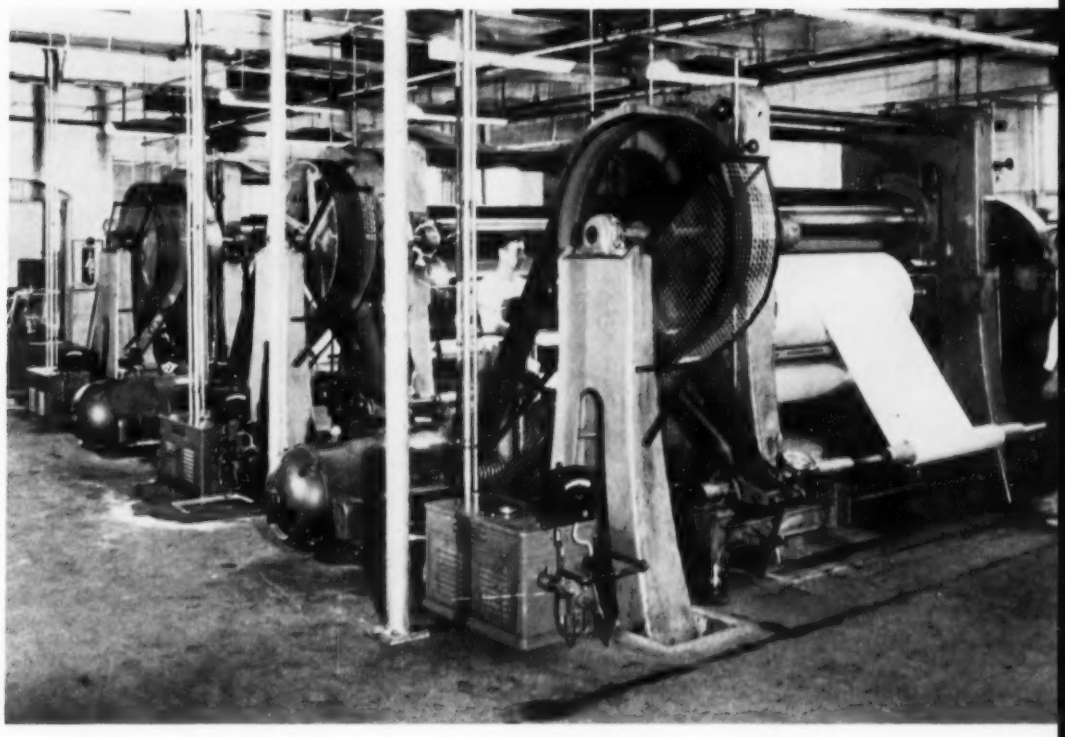
In the three locations mentioned, the need for turning down rubber rolls will be greater; but in the soaping compartments, in the writer's experience with one particular high speed range, the rolls did not require turning down during eight years of operation.

As to density of the rubber, in the soaping compartments a slightly softer rubber should be used than in the other three locations mentioned, where also different size rolls should be used.

Inspection of rubber rolls for the presence of foreign particles and hard substances, such as pieces of metal shavings, etc., is very important. In every plant's experience there has been at least one unhappy incident when a piece of metal or other substance has lodged itself in the roll to damage the fabric with every revolution. In one instance, a piece of metal became attached to a top roll and did considerable damage to thousands of yards of fabric, which passed undetected to the finishing table. The defect was so minor that it had escaped inspection until the fabric had been framed to width, thus plainly exposing the damage.

It may be wise in this connection to keep a record of roll circumferences in the plant engineer's files to more readily locate the source of damage and perhaps prevent permanent damage to the roll.

A difference of opinion can arise as to the amount of lubrication required.



# MAINTENANCE:

# Calender rolls

by C. A. Potter
*Vice-president and general manager*
*B. F. Perkins & Son, Inc.*

Exclusive

THE CALENDER is a precisely engineered piece of equipment designed to impart a specific class of finishes, under controlled conditions, to fabrics of natural and man-made fibers. Over the years a variety of calenders and calender rolls have been developed to meet increasing demands of fashion and styling for new finishes. And in recent years, the synthetic resins have added lasting aesthetic appeal to fabrics to make the calender an even more flexible piece of equipment.

In production finishing, uniformity in calendering from one day to the next is essential. Operation of the calender, and in particular the care and maintenance of rolls, become important if duplication of established finishes is to be achieved.

The raw materials that go into the manufacture of rolls have been selected essentially for their resilience and endurance to the conditions under which finish is imparted to fabric. However, in a discussion of filled roll requirements for calendering operations some generalization is inevitable, for many similar finishing effects can be achieved on more than one piece of equipment or on the same piece of equipment with filled rolls of different raw material(s) and characteristics.

Such factors as temperature and pressure, friction and speed, fabric and finishing materials enter into the finishing picture, not to mention the condition of the filled roll(s). Thus it is not unusual to find that even though calenders have been developed for a specific class of finishes, their usage has extended to modifications of these and to others as well.

The most common filled rolls in

usage today are made of cotton, cotton-wool, combination cotton and husk, wool-paper, and several varieties of paper. Each has properties to make it most desirable for certain operations. For example, in Schreiner calendering, a wool-paper or cotton and wool blend roll is used; these, incidentally, possessing greatest resistance to "marking." In friction calendering, on the other hand, an all-cotton roll is most widely used. There are certain finishing and production requirements, however, that are best met with specially manufactured rolls of selected raw material(s) pressed to specific densities.

*Running-In a Roll.* To obtain maximum life from a new roll, or one that has been refilled or refinished, it is first necessary to properly run it in. This procedure consists essentially of applying water to the surface of the roll over an extended period of time under controlled temperature and pressure. It actually alters roll surface, making it smoother, for maximum finishing effect on fabric. Since the factors involved in running-in a roll can be altered, it is not unusual to find that many mills use their own procedures which, however, do not vary considerably from standard practices.

A roll that has been shipped to the finishing plant has been turned on its centers and ground on its journals until it is true to within 0.001" across its entire face and over-all dimensions. If it is to be held in storage for any appreciable length of time, it should be rotated 180 degrees on its axis from time to time, as a precautionary measure against internal stress changes in the filling. However, the best practice, if facilities are available, is to store rolls (in box) in an upright position, thus eliminating the need for rotation. This practice also saves floor space.

But despite the most sound precautions taken during long storage, the roll should be placed in a lathe or roll grinder, set up and indicated. If it is not true to within 0.001" it should be cut lightly across the face before installation.

There are many techniques employed in the trade for running-in, or breaking-in, a new or newly filled roll; however, a typical procedure, applying to a specific calendering operation, can be outlined to indicate the precautions that must be observed. The following instructions apply to running in a new long staple cotton calender roll, used in an 80-100-ton synthetic finishing rolling calender for the synthetic lining trade:

1. Examine roll carefully for any foreign substances and remove them.

2. Then apply a light pressure (10 tons) and dampen rolls, being sure that no bank of water appears at the nip. Repeat dampening every 15-20 minutes for a period of two hours.

3. At the end of two hours, increase pressure to 15 tons, using water more freely to create a small bank of water at the nip. Continue to apply water every 15-20 minutes for a period of two hours.

4. At the end of four hours, apply heat to the chilled iron rolls, bringing their temperature up to 140-150 F. Continue this wetting and drying cycle at 15-20 minute intervals.

5. At two-hour intervals, increase the pressure slightly (meanwhile continuing the wetting and drying cycle) until the maximum pressure to be used is reached at 22 hours.

6. For the last two hours, run the rolls dry.

Soft, lukewarm water or a very dilute, lukewarm solution of a neutral soap (such as Ivory) can be used in running-in.

*General Comments on Care of Rolls After Running-In.* In addition to proper running-in of rolls, periodic washing is essential to recondition surfaces to obtain maximum life and satisfactory performance. The frequency of the treatment depends on the severity of the application. Some mills wash down a cotton roll and run it up dry once every eight hours, while others may do it three times in a similar period. Washing down a roll and running-up to a good face not only renews the immediate outer surface, but also puts back much of the life that has been taken out during operation.

The filled calender roll should be constantly watched for "high ends." An unmistakable sign is a pronounced high glaze and noticeably high temperature at these sections. These should be immediately sanded. It is also common practice to sand a slight taper at the ends of a calender roll to protect them from direct contact with high temperatures and pressures.

While it may be difficult to schedule production so that only fabrics of certain weight and width are run on certain calenders, this practice should be followed whenever possible. Obviously, when changing production from narrow fabrics to much wider ones, the rolls should be taken out for refinishing, followed by conditioning.

Every plant is familiar with damage to a roll's surface which causes production bottlenecks, as when heavy seams and cloth irregularities pass through the nip. A seam detector attached to a calender can prevent localized damage, particularly from the heavy seam.

Good housekeeping practices can prevent much unnecessary damage to rolls. If oil and grease, for example, are allowed to work onto the filled roll they can cause softening or checking to make the roll unsatisfactory for usage.

*The calender is a precisely engineered piece of equipment; proper running-in is an essential step in preventive maintenance*

# Easy way to figure spinners' pay

*Constants eliminate drawn-out figuring in determining average sides run and wages*

by Maley Chagro
Exclusive

IN MANY MILLS the payroll departments figure the wages of spinners from the payroll sheets submitted at the end of the work week by the spinning department office. In others, the supervisors do the figuring, and the payroll department checks the figures. Payroll sheets are usually kept in the possession of supervisors, and daily entries are made by them, or by a clerk under the direction of the supervisors.

Regardless of who handles the payroll sheets, there is no question about it that they have been contacted time and again by spinners who claim to have been underpaid; that they had tended extra sides for which they had not been paid. It is sometimes an honest mistake on the part of the spinner who believed she had more wages due her, and sometimes it is error of omission on the part of whoever handled the payroll sheets.

Whatever the reason, the complaint, from a good human relations angle, should be investigated at once, for the most important thing to a spinner or any wage earner is his wages — correct wages. It is a disturbing factor that should be quieted at once by reassuring the spinner that a check will be made immediately.

IT IS, of course, of great advantage to the supervisor to compute sides tended daily and weekly and multiply these by rates per side, and thus quickly determine wages due. It is comparatively easy where a spinner, for example, runs 20 sides for a full week at $2.50 a side, to figure the full wage. However, it becomes more complicated when

a spinner runs two or more yarns on her assigned frames, with different rates and staggered daily work loads. Again, a spinner may not work a full week and questions the wages she received.

There are many methods employed in determining spinners' wages and sides run, and common among these are what is known as the point two (.2) method, based solely on 8-hr shifts and a 40-hr week. Eight hours, being one-fifth of 40 hours, or .2, forms the basis for this method (see Table 1).

The average sides run on a 40-hr basis are 19.6 (from Table 1). Sides tended each shift are multiplied by .2:

| M | T | W | T | F | Week |
|---|---|---|---|---|---|
| 3.6 | 3.8 | 4.2 | 4.0 | 4.0 | 19.6 |

This is a widely used method, but can only be used with a 40-hr week and 8-hr shifts; it can not

**TABLE 1**

| Name | M | T | W | T | F | S | Total | Sides | Rate | Amount |
|---|---|---|---|---|---|---|---|---|---|---|
| Janis Dow | 8 | 8 | 8 | 8 | 8 | — | 40 | | 2.60 | 50.96 |
| 38s F | 18 | 19 | 21 | 20 | 20 | — | | 19.6 | | |

**TABLE 2**

| Name | M | T | W | T | F | S | Total | Sides | Rate | Amount |
|---|---|---|---|---|---|---|---|---|---|---|
| Janis Dow | 7 | 7 | 7 | 7 | 7 | 5 | 40 | | 4.10 | 51.35 |
| 18s F | 12 | 14 | 12 | 14 | 11 | 12 | | 12.525 | | |

**TABLE 3**
**Constants for Sides**

| Sides Tended | Hours Run | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ¼ | ½ | ¾ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 16 | 24 | 32 | 40 |
| 1 | .00625 | .0125 | .01875 | .025 | .05 | .075 | .1 | .125 | .15 | .175 | .2 | .225 | .4 | .6 | .8 | 1. |
| 2 | .0125 | .025 | .0375 | .05 | .1 | .15 | .2 | .250 | .3 | .35 | .4 | .45 | .8 | 1.2 | 1.6 | 2. |
| 3 | .01875 | .0375 | .05625 | .075 | .15 | .225 | .3 | .375 | .45 | .525 | .6 | .675 | 1.2 | 1.8 | 2.4 | 3. |
| 4 | .025 | .05 | .075 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | 1.6 | 2.4 | 3.2 | 4. |
| 5 | .03125 | .0625 | .09375 | .125 | .25 | .375 | .50 | .625 | .75 | .875 | 1. | 1.125 | 2. | 3. | 4. | 5. |
| 6 | .0375 | .075 | .1125 | .15 | .3 | .45 | .6 | .75 | .9 | 1.05 | 1.2 | 1.35 | 2.4 | 3.6 | 4.8 | 6. |
| 7 | .04375 | .0875 | .13125 | .175 | .35 | .525 | .7 | .875 | 1.05 | 1.225 | 1.4 | 1.575 | 2.8 | 4.2 | 5.6 | 7. |
| 8 | .05 | .1 | .15 | .2 | .4 | .6 | .8 | 1. | 1.2 | 1.4 | 1.6 | 1.8 | 3.2 | 4.8 | 6.4 | 8. |
| 9 | .05625 | .1125 | .16875 | .225 | .45 | .675 | .9 | 1.125 | 1.35 | 1.575 | 1.8 | 2.025 | 3.6 | 5.4 | 7.2 | 9. |
| 10 | .0625 | .125 | .1875 | .25 | .5 | .75 | 1. | 1.25 | 1.5 | 1.75 | 2. | 2.25 | 4. | 6. | 8. | 10. |
| 11 | .06875 | .1375 | .20625 | .275 | .55 | .825 | 1.1 | 1.375 | 1.65 | 1.925 | 2.2 | 2.475 | 4.4 | 6.6 | 8.8 | 11. |
| 12 | .075 | .15 | .225 | .3 | .6 | .9 | 1.2 | 1.5 | 1.8 | 2.1 | 2.4 | 2.7 | 4.8 | 7.2 | 9.6 | 12. |
| 13 | .08125 | .1625 | .24375 | .325 | .65 | .975 | 1.3 | 1.625 | 1.95 | 2.275 | 2.6 | 2.925 | 5.2 | 7.8 | 10.4 | 13. |
| 14 | .0875 | .175 | .2625 | .35 | .7 | 1.05 | 1.4 | 1.75 | 2.1 | 2.45 | 2.8 | 3.15 | 5.6 | 8.4 | 11.2 | 14. |
| 15 | .09375 | .1875 | .28125 | .375 | .75 | 1.125 | 1.5 | 1.875 | 2.25 | 2.625 | 3. | 3.375 | 6. | 9. | 12. | 15. |
| 16 | .1 | .2 | .3 | .4 | .8 | 1.2 | 1.6 | 2. | 2.4 | 2.8 | 3.2 | 3.6 | 6.4 | 9.6 | 12.8 | 16. |
| 17 | .10625 | .2125 | .31875 | .425 | .85 | 1.275 | 1.7 | 2.125 | 2.55 | 2.975 | 3.4 | 3.825 | 6.8 | 10.2 | 13.6 | 17. |
| 18 | .1125 | .225 | .3375 | .45 | .9 | 1.35 | 1.8 | 2.25 | 2.7 | 3.15 | 3.6 | 4.05 | 7.2 | 10.8 | 14.4 | 18. |
| 19 | .11875 | .2375 | .35625 | .475 | .95 | 1.425 | 1.9 | 2.375 | 2.85 | 3.325 | 3.8 | 4.275 | 7.6 | 11.4 | 15.2 | 19. |
| 20 | .125 | .25 | .375 | .5 | 1. | 1.5 | 2. | 2.5 | 3. | 3.5 | 4. | 4.5 | 8.0 | 12. | 16. | 20. |
| 21 | .13125 | .2625 | .39375 | .525 | 1.05 | 1.575 | 2.1 | 2.625 | 3.15 | 3.475 | 4.2 | 4.725 | 8.4 | 12.6 | 16.8 | 21. |
| 22 | .1375 | .275 | .4125 | .55 | 1.1 | 1.65 | 2.2 | 2.75 | 3.3 | 3.85 | 4.4 | 4.95 | 8.8 | 13.2 | 17.6 | 22. |
| 23 | .14375 | .2875 | .43125 | .575 | 1.15 | 1.725 | 2.3 | 2.875 | 3.45 | 4.025 | 4.6 | 5.175 | 9.2 | 13.8 | 18.4 | 23. |
| 24 | .15 | .3 | .45 | .6 | 1.2 | 1.8 | 2.4 | 3. | 3.6 | 4.2 | 4.8 | 5.4 | 9.6 | 14.4 | 19.2 | 24. |
| 25 | .15625 | .3125 | .46875 | .625 | 1.25 | 1.875 | 2.5 | 3.125 | 3.75 | 4.375 | 5. | 5.625 | 10. | 15. | 20. | 25. |
| 26 | .1625 | .325 | .4875 | .65 | 1.3 | 1.95 | 2.6 | 3.25 | 3.9 | 4.55 | 5.2 | 5.85 | 10.4 | 15.6 | 20.8 | 26. |
| 27 | .16875 | .3375 | .50625 | .675 | 1.35 | 2.025 | 2.7 | 3.375 | 4.05 | 4.725 | 5.4 | 6.075 | 10.8 | 15.2 | 21.6 | 27. |
| 28 | .175 | .35 | .525 | .7 | 1.4 | 2.1 | 2.8 | 3.5 | 4.2 | 4.9 | 5.6 | 6.2 | 11.2 | 16.8 | 22.4 | 28. |
| 29 | .18125 | .3625 | .54375 | .725 | 1.45 | 2.175 | 2.9 | 3.625 | 4.35 | 5.075 | 5.8 | 6.525 | 11.6 | 17.4 | 23.2 | 29. |
| 30 | .1875 | .375 | .5625 | .75 | 1.5 | 2.25 | 3. | 3.75 | 4.5 | 5.25 | 6. | 6.75 | 12. | 18. | 24. | 30. |

Basic constant: 40 hours; 1 hour = .025

**TABLE 4**

| Name | M | T | W | T | F | S | Total | Sides | Rate 40 hr | Amount |
|---|---|---|---|---|---|---|---|---|---|---|
| Janis Dow | 8 | 8 | 8 | 8 | 8 | 5 | 45 | | 2.60 | 58.50 |
| 38s F | 20 | 20 | 20 | 20 | 20 | 20 | | 22.5 | | |

be used in a mill which runs 7- or 9-hr shifts, or for any shift hours other than 8.

A METHOD commonly used by mills which run other than 8-hr shifts and work weeks of more or less than 40 hours is known as the sides/hours method (see Table 2).

This method requires drawn-out figuring before the average sides run are determined. The daily and weekly sides/hours and average sides per 40 hours are computed as follows:

$$\frac{(7 \times 12) + (7 \times 14) + (7 \times 12) + (7 \times 14) + (7 \times 11) + (5 \times 12)}{40} = 12.525$$

which are the average sides run for 40 hours.

Though each of the methods discussed above is basically sound, each leaves something to be desired — one is limited to 8-hr shifts, and the other requires much calculating before accurate quotients (sides) are determined.

THE "CONSTANT" METHOD is such that it actually makes no difference what the daily shift or weekly hours are, provided the rate is established on a 40-hr basis. If the work week increases or decreases and the basic rate remains established at 40 hours, the average sides tended are quickly determined by this method.

For example, if a spinner tends 20 sides for 32 hours, and the 40-hr rate is $2.60 per side, opposite "sides tended" (20) and under "hours run" (32) in Table 3 will be found the constant 16. Proportionately, the spinner has tended 16 sides on a 40-hr basis. Thus,

$$\$2.60 \times 16 = \$41.60$$

It is not necessary to make out a 32-hr rate.

If a mill decides to extend its work week to 45 or more hours, again it is not necessary to change the basic 40-hr rate (see Table 4).

On the constant chart (Table 3), under hours (40) and opposite sides tended (20) is the constant 20. Under hours (5) and opposite sides tended (20) is the constant 2.5, thus making possible a quick determination of average sides tended, 40-hr basis, and total wages on a 45-hr basis.

Here again a new rate is not necessary. However, if a new rate were desired on a 45-hr basis, then proportionately the rate would be:

$$\frac{2.60 \times 45}{40} = 2.925$$

$$20 \times 2.925 = 58.50$$

If the rate were changed, then the second method of long, drawn-out figuring would have to be used if a spinner ran staggered daily work loads.

Any system or method that saves time, saves money. Whether it leads to better quality, more production, better human relations, more time for direct supervision, or speedier and more accurate figuring of tasks, the end result is reflected in the efficiency of the work performed.

# Determine cost and sell only at profit, carded yarn mills advised

*Staff Report*

■ THE PRESENT fault of the textile industry lies in too many individuals independently doing the same things, at the same times, in the wrong way, and with total disregard to ample experience and knowledge to the contrary, M. Y. Cooper, vice-president of Harriet and Henderson Cotton Mills, Henderson, N. C., told members of the Carded Yarn Association during the recent annual meeting at Sea Island, Ga.

There would be no problem if each spinner would learn his own cost, make each pound of yarn for the purpose of selling it at a profit, and produce no more than could be sold at a figure greater than its total cost.

Mr. Cooper outlined a five-point program to improve the mills' position in our economy. The proposals included:

(1) Cultivate a strong will to make a profit, and price the product accordingly.

(2) Keep the press accurately informed so that customers recognize that they buy yarn tailored to its end use and that surplus weaving yarns are no substitute.

(3) Cooperate in the approved projects and objectives of the Association.

(4) Secure new members for the Association so that the burden of administering the affairs of the industry are spread over as wide a field as possible.

(5) Recognize that the evils of the industry are not inevitable, and do something to correct them.

*Dr. M. K. Horne*, chief economist for the National Cotton Council, pointed out that while cotton has a great problem in competing with other fibers, this has not actually been its greatest problem in recent years. Cotton's greatest problem has been how to compete, along with other fibers, against the forces which have held back the growth of the whole textile market, he said.

Of all the forces which have held us back, the greatest in Dr. Horne's opinion is the one which is closest to our own door-step: The non-textile materials which have been taking our long-time textile uses away from us. Of the non-textile materials, the biggest one is paper; the second biggest is plastic; and others include rubber, glass filament, various metals, and wood. Obviously, the price of cotton is important in this struggle for end use markets.

Competition has to be met with the combination of price, promotion, and quality, Dr. Horne concluded.

Lappings for printing machines are among the fabrics from Noone Division of Kenwood Mills, F. C. Huyck & Sons, Peterborough, N. H.

Wool and nylon are made into a multiple layer sandwich and picked three times before being oiled and blown over to the card room.

Staff prepared Exclusive

*Woolen industrial fabric manufacturing*

# How quality printers' lappings are made

*The quality of the lapping cloth is a variable in printing that is not under the control of the printer, once the fabric is installed on the machine. Here are the steps taken at the Noone Division of F. C. Huyck & Sons to insure that printers get high quality lappings*

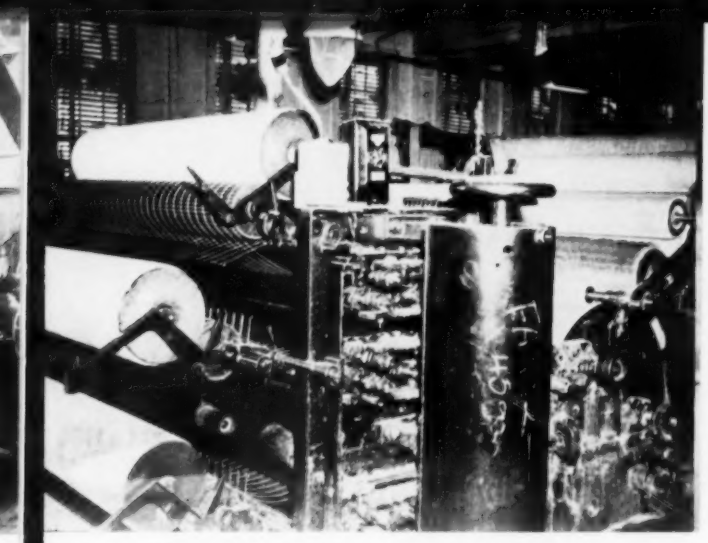
THE PRIMARY function of lapping material in printing is to provide a cushion between the printing rollers. While the printer is well aware of this need for cushion, he may not fully appreciate the fabric properties essential for dependable printing and long life.

*Printing Operation.* Printing variables of machine operation and color preparation may be controlled by the printer. For example, he can adjust the "set" on a roller to give uniform penetration of color paste across the fabric and have the colorist alter paste viscosity to achieve the desired printed effect. A change in shade may also be made routinely. However, the printer can not change the characteristics of the lapping cloth that affect the printed fabric. For this reason, the printer must assure himself of uniform high quality lapping cloth.

The printing cylinder is normally wound with approximately 100 yards of lapping, which has been cut into six to eight equal lengths. These strips are skillfully wound so that the distance between adjacent fabric ends is approximately the same. To prevent surface irregularities caused by the ends of the strips, the filling yarns are removed for a distance of several inches from each end and the warp yarns are combed down smoothly. The side edges of the fabric are usually trimmed. The care in lapping installation must be accompanied by careful selection of high quality lapping cloth to achieve satisfactory performance and life.

What, then, are the properties that printer's lapping must possess to give satisfactory long-term performance? The most important characteristics are:

1. Must not stretch and cause wrinkles.
2. Must have warp and filling yarns of uniform size and weight for fabric uniformity.
3. Must have warp and filling



Uniform roving is a "must" for the wool-nylon blend; pressure on the Peralta rolls is carefully controlled to insure uniformity.

Strict standards are maintained for yarn count and twist in spinning. High twist is necessary for optimum quality in lappings.

yarns at right angles to each other.

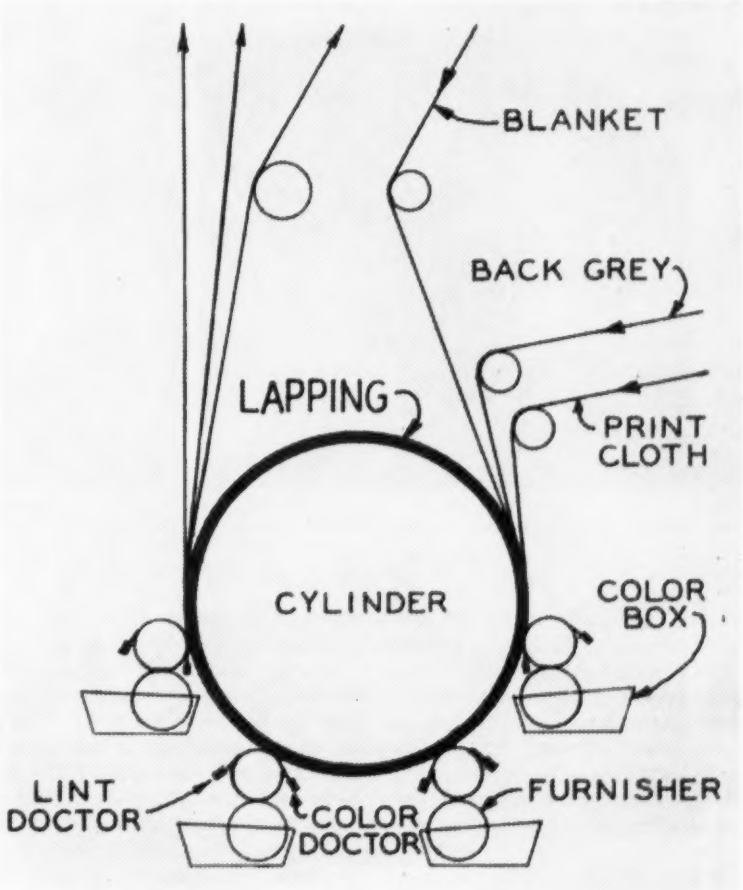
4. Must have good machine life because frequent lapping removal is costly.

5. Must not curl at the ends or slide during usage. Therefore, yarn twist and direction of twist (both warp and filling) must be uniform in the fabric.

*Raw Materials.* The careful selection of raw materials is the first important step in the manufacture of lapping cloth. Before synthetic fibers were developed, lapping cloth was made of linen, cotton, and wool. Today, with few exceptions, a mercerized cotton warp and a wool-nylon filling are used. This combination possesses the desired functional properties and meets the life and cost requirements as well.

The filling yarn prepared at the Noone Division of Kenwood Mills, F. C. Huyck & Sons, Peterborough, N. H., is a blend of wool and nylon. The high twist cotton warp yarn, made to Noone's specifications, is mercerized to give it increased strength and reduced stretch. A virgin wool, chosen for its long staple length, uniformity, and strength contributes to the cushioning characteristic of the lapping. The nylon, with its characteristic high strength and abrasion resistance, assures long life.

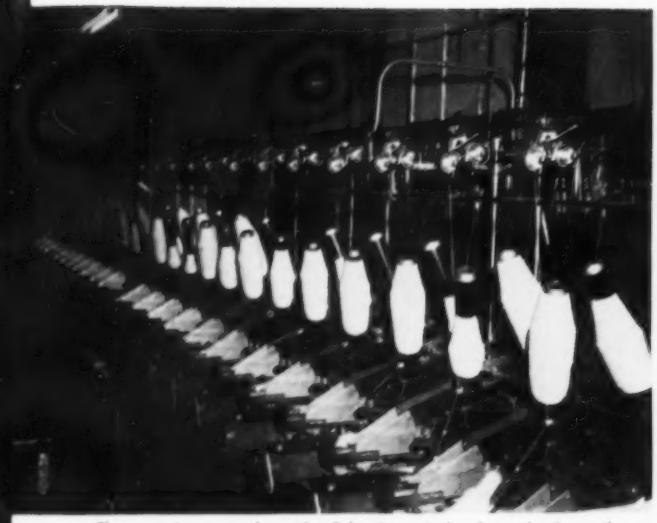
Schematic drawing of a four-color printing machine, showing where the lapping is used.



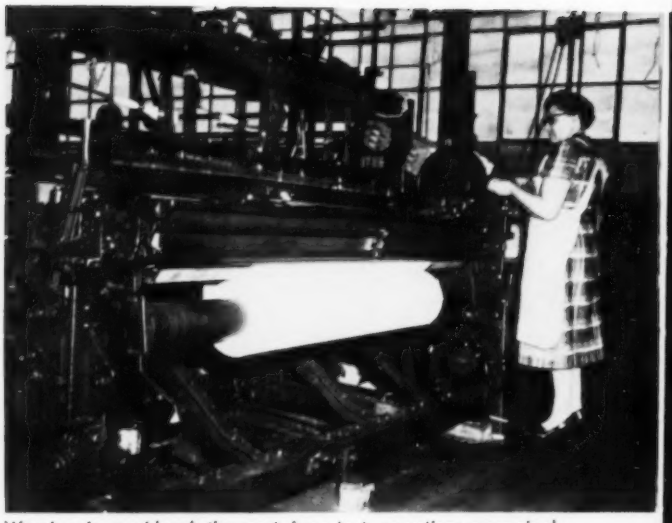

*Blending and Carding.* In blending, the wool and nylon are opened separately and are then made into a multiple layer sandwich. The sandwich is then picked three times for uniform blending. During the third passage the stock is oiled and blown to the card room.

During carding, pressure on the Peralta rolls is carefully controlled to produce uniform roving of the wool-nylon blend. Close attention to this detail is essential for desired yarn characteristics.

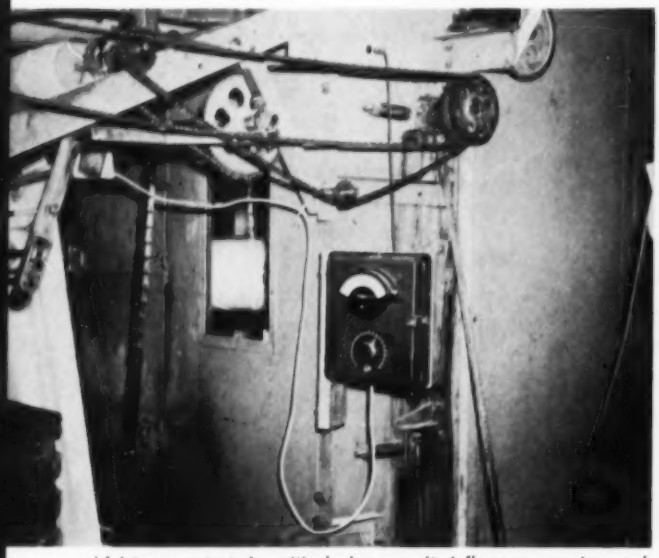
*Spinning and Rewinding.* In spinning, a yarn of uniform weight and twist must be produced. Strict standards are maintained on



The yarn is rewound on the Schweiter winder from the large frame bobbin onto a loom bobbin in preparation for going to weaving.



Weaving is considered the most important operation; mercerized cotton warp and wool-nylon filling are held under heavy tension.



Moisture content is critical, because it influences pressing and fabric thickness. Note continuously indicating moisture meter.

Press operator measures fabric thickness in thousandths of an inch with a gauge. The fabric is also slightly stretched in pressing.

weight and level of twist for optimum fabric quality. A yarn of high twist is necessary for compactness and better wearing qualities on the printing machine.

Following spinning, the yarn is rewound from the large frame bobbin to a smaller one in preparation for weaving.

*Fabric Design and Weaving.* As in blending, carding, and spinning, uniformity is also very important in weaving. Greater attention to detail is involved because many of the fabric's properties are influenced by the loom. The high twist warp and filling yarns kink readily and so must be woven with carefully controlled tension.

The fabric is woven on a conventional duck loom, using one shuttle. Careful screening of yarn bobbins is necessary to minimize the chance of producing even a few inches of inferior fabric. Such an imperfection could result in rejection of the entire piece.

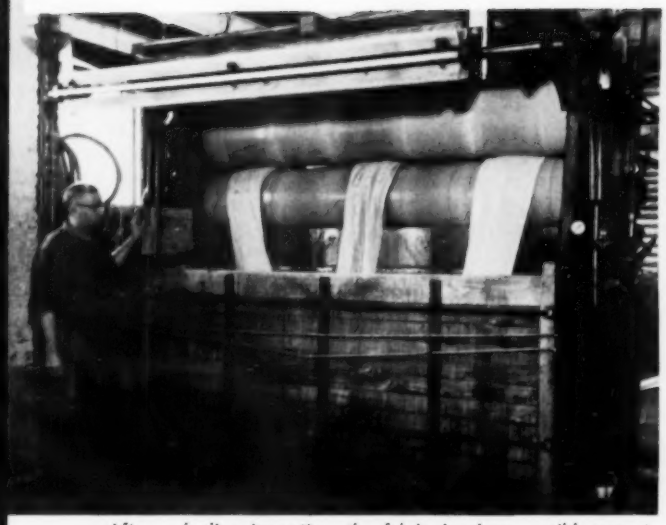
The direction of twist must be the same in all yarns. If not, the lapping will curl at the cut ends and cause printing defects.

The lapping cloth is tightly woven in a plain weave. It is a maximum-textured fabric with a sandy, firm hand that almost belies its ability to act as a cushion during printing.

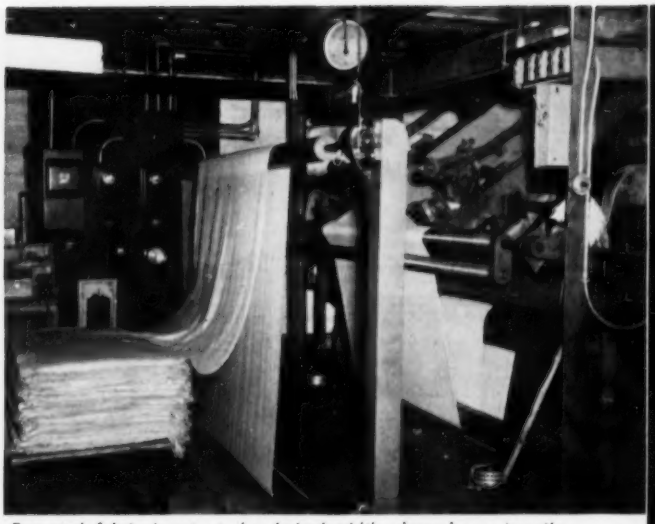
*Inspection and Scouring.* Following weaving, the fabric is given a burling inspection. It is carefully scrutinized for yarn and weaving defects, and a piece that does not meet specifications is rejected.

Generally, scouring removes foreign matter, oil, grease, and other materials that are undesirable in the finished fabric. With lapping cloth, this operation is a comparatively mild one and is used primarily to relax the fabric. In addition to fabric relaxation, the scouring operation lessens the tendency of the fabric to kink.

*Extraction, Drying, and Pressing.* The scoured and relaxed fabric

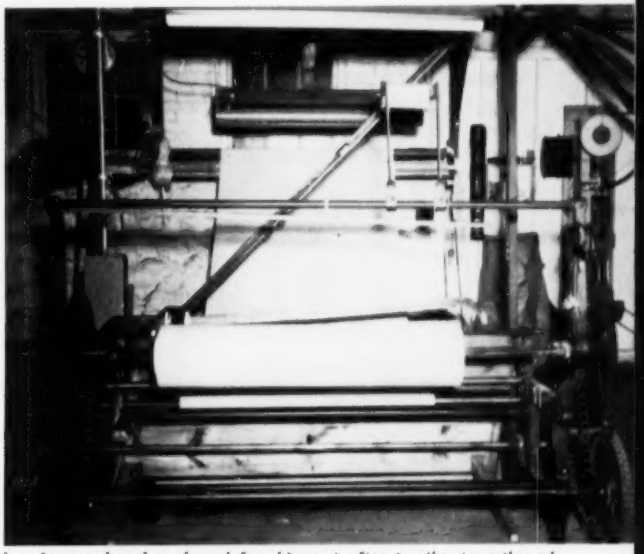


After a burling inspection, the fabric is given a mild scour to remove foreign matter, oil, grease, and other undesirable materials.



Extracted fabric is set at the desired width; dryer has automatic variable stretching device which maintains correct fabric width.

The lapping is carefully examined for imperfections that would cause defects in fabrics printed on the machine where it is used.



Lap is wound and packaged for shipment after tensile strength and elongation are measured (note Scott tester on wall in background).

is then squeezed between rolls under heavy pressure, maintained uniformly across the fabric. This method of extraction has been found to produce more uniform results than are possible with a centrifuge.

The extracted fabric is set at the desired width (see photograph) and then enters the drying chamber where it passes over an automatic variable stretching device. The fabric, on leaving the dryer, retains a small amount of moisture. This moisture content is critical because it influences pressing and fabric thickness.

In the pressing operation, the desired thickness of the fabric is achieved by passing the fabric through rolls under high pressure. Before shipment, it is tested for thickness (in thousandths of an inch), breaking strength, and elongation, carefully inspected, rolled, and packaged.

*Quality Control.* To produce a lapping material to exact specifications, Noone Division makes full use of the quality control laboratory located in the Rensselaer, N. Y., plant of F. C. Huyck & Sons. Here, technicians perform appropriate tests using the latest instruments. Among the testing tools is the Instron tester, used for accurate measurement of properties of fiber, yarn, and fabric.

Raw materials, yarn, and grease fabric as well as finished fabric are exhaustively tested. Lapping cloth tests, significant to good performance, include fiber content of the filling yarn, yarn size, and twist (both warp and filling), breaking strength, and elongation of fabric.

In manufacture of lapping cloth, every operation from selection of raw materials to final testing must be controlled very closely with great attention to detail. Only with this careful procedure will uniform, high quality fabric be produced to meet the exacting requirements of printer's lapping.

# Board shows filling yarn needs at

*Wall chart method gives an up-to-the-minute record of types and colors of filling yarn*

by Mara Havinoviski
Exclusive

OUR MILL recognizes that one of the most important factors of production planning and control is a close check at all times on the availability and issuance of required materials. I believe that the system we have evolved for our filling requirements may be of great benefit to any mill engaged in the production of style goods.

Our production must be geared to swift changes of construction especially affecting the type, count, and color of filling:

a) The count and type of filling may shift from 60/2 mercerized cotton, 20/2 spun silk, 70/34/.5Z nylon, 200/40/2Z, or 300/75/2Z acetate, to 150/90/2.5 Bemberg, 150/7/3Z crystal acetate, etc.

b) The range of colors offered by various manufacturers of man-made fibers plus that of dyestuff firms is very large indeed, and as in the case of types and counts of yarns offered, it is becoming even greater as more colors are made available, as consumers develop choosier tastes, and as the over-all competition grows stronger.

*Old Method.* Our old method of keeping control of filling requirements was to figure poundage of each filling color by type and count required, from yardages of styles still due at the end of the week. These values were listed opposite corresponding filling in stock, as determined by a weekly physical inventory of filling in the stock room and in the winding room. Surpluses were recorded in the "over" column. The values in the "under" column signified that the requirements were greater than the filling on hand, and that more had to be ordered. (Example 1 below illustrates this old method.)

While there is little doubt that such a method could be used without difficulty in a mill continuously requiring the same filling yarns and colors, and weaving for stock, it was apparent to us that a much closer check was necessary.

In effect, one inventory error of only one color of a filling type and count, no matter how rare such an error, could prove to be costly. More yarn could be ordered than was needed and we would wind up with a stock of expensive filling.

Conversely, an incorrect estimate exaggerating the quantity could lure us into false security and we would not be able to complete a contract in time, thus risking cancellation. Furthermore, even if we were in a position to eliminate altogether the possibility of such an occasional error, our results could not be complete without also taking into consideration the poundages of filling in the weave shop, contained in cloth on looms, and in cuts at grading and in bins.

Therefore, some of our requirements seemed larger than was actually the case. Eventually, this would result in an increased stock. The 160 lb of Red in Example 1 could have been the result of just such a cause.

The many calculations involved in our old method were time consuming, and not foolproof; and, in the light of the above mentioned facts, incomplete.

Another problem we had to face constantly was that the many different types, counts, and colors of filling being drawn from stock as per our weaving instructions made it rather difficult to keep things straight in the stock room, and there was a definite tendency to overproduce certain styles and underproduce others.

Also, most costly delays would invariably occur when an order would arrive on a Monday or Tuesday, and the filling would not be ordered until Friday when the report was issued.

*Chart Board.* Our new method uses a compact wooden board, 12″ x 18″, divided into six vertical columns, 3″ each. These columns may be used fully for one type and count of filling each, or for more than one type and count of filling to a column, as in our case (see board drawing). The horizontal titles indicate the type and count of filling; the vertical list is for colors.

Each column has two rows of transparent pockets or windows into which can be inserted a strip of heavy paper. The bent section at the top of the paper strip facilitates its removal and insertion, also prevents it from sliding through the bottom of the pocket.

The first row of pockets in each column is for showing poundages of filling as per the weekly inventory, and is marked on the inserted strip. The circle above this figure is to contain a figure showing the poundage on order, if and when ordered. The second row of pockets is to indicate the poundages above or below requirements. We use a black lead pencil to show that we

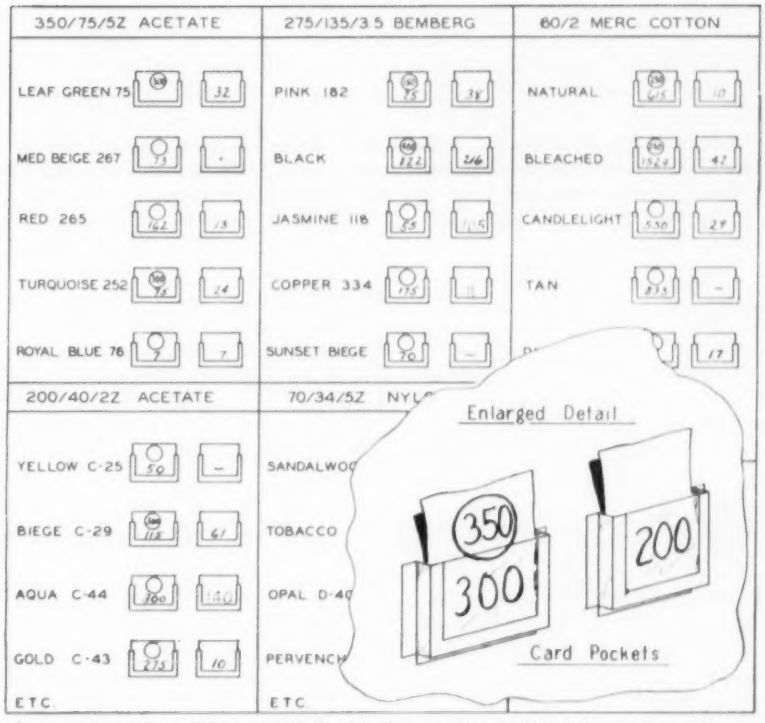
**EXAMPLE 1**

**Filling: 150/38/2Z Chromspun Acetate**

| Color | Required | Ordered | On Hand | Over | Under |
|---|---|---|---|---|---|
| Peacock | 792 | — | 804 | 112 | — |
| Lt. Blue | 300 | 200 | 27 | — | 63 |
| Red, etc. | — | — | 160 | 160 | — |

# a glance

*in stock, needed, and on order*




One way to make a filling control chart is shown in this sketch which was prepared from the author's description of his board.

are "over," and a red one to show that we are "under" requirements.

These pockets are ⅝" x ⅜", and are cut from a rigid sheet of clear plastic. The bottom and lateral edges are thickened with a narrow strip of masking tape going around the edges. This will keep the pocket away from too tight a contact with the surface of the board and thus facilitate the insertion of paper strips.

The pockets are kept in place with a strip of masking tape on each side, and a larger one in the middle common to both windows. This will leave about ½" of clear portion in each pocket.

*New Method.* The basic change in our technique of filling control consists in considering the actual poundages purchased rather than those obtained from the weekly inventory of yarn in stock and at winders. The concept is simple: When a new order arrives, requirements for type and count of filling per color are determined and the second window undergoes a change.

For example, one order in question is for style IDA/Aqua—1500 yds. This will require 220 lbs of 200/40/2Z Aqua C-44. A glance at the board will show that as of Friday we had approximately 300 lbs on hand but that we are only 80 lbs over current requirements. See Example 2.

**EXAMPLE 2**

**Filling: 200/40/2Z Acetate**

| Color | On Hand | Over or Under |
|---|---|---|
| Aqua C-44 | 300 | 80 |

This means that we must order 140 lbs more to complete the order requiring this filling. It also means that we are 140 lbs "under" or below requirements.

A simple procedure would be to order 140 or 150 lbs. For instance mark 150 lbs inside the circle on the strip in the first row pocket. Erase the 80 lbs on the strip in the next pocket and mark instead 10 lbs in black. This is how the board should look now*:

**EXAMPLE 3**

**200/40/2Z Acetate**

| | | |
|---|---|---|
| | 150 | |
| Aqua C-44 | 300 | 10 |

Actually, the procedure may be a bit more involved. The strip in the second window is removed, the 80 lbs erased, and 140 lbs marked in red (dotted lines on the chart), and the strip replaced in its pocket.

Knowing our current production requirements, i.e., the length of time the 300 lbs of filling on hand should last, approximately, we determine whether some of this filling on hand over the 80 lbs (which we can use right away) may be borrowed from our present needs to complete this order at the early date called for in the contract.

In this connection, it should be kept in mind that we do not always save time by ordering in lots of less than a full case of about 350 lbs. In some instances some waiting will actually expedite delivery from the yarn manufacturer. The next order, within a day or two may require the same filling, and make up for the balance needed to attain a full case or more. Also, it may become apparent that there will be repeat orders for styles requiring this same filling, then it would be logical to order in advance by getting a full case or more instead of the net requirements or of slightly more than the net requirements as in our illustration above.

In any event, required filling should be ordered in time to receive it before the current insufficient stock runs out, and/or in time to complete delivery of goods before the contract deadline.

From here on, the procedure of control is exactly as outlined before. Suppose we order a case of about 350 lbs in anticipation of additional requirements. This quantity is marked inside the circle of the insert. The strip in the next

*At the mill the top figure, 150, is circled in pencil or ink to indicate that it is necessary to complete the order.

pocket should have the 140 lbs in red erased and replaced by 210 in black. Now, suppose we receive 340 lbs instead of 350 lbs. The poundage over requirements should then be changed from 210 to 200. Assuming that we still had about 15 lbs the week of the arrival of this yarn, our board should now look as follows:

**EXAMPLE 4**

| | | |
|---|---|---|
| **200/40/2Z Acetate** | | |
| Aqua C-44 | 365 | 200 |

A weekly record is kept of the filling status as of every Friday by copying it from the control board on a mimeographed form. This helps our sales management to estimate certain commitments and/or to take advantage of surpluses. A copy is also needed at the mill for various references, such as activity of different fillings, check on inventory errors, check on previous status, etc.

*Advantages.* We find that this control method has the following primary advantages:

1—It provides a basis for swift action by showing at a glance the status of any filling type, count, and color at any time.

2—It expedites purchases and delivery of filling.

3—It is less effort and time consuming. The spreading out of individual calculations and decisions, based on separate orders as they come in, is much easier than piling up all balances of undelivered orders for the report at the end of the week.

4—It simplifies much paperwork and eliminates most paperwork preliminary to weekly reports of the old method.

5—It is much more accurate and tends to eliminate shortages as well as inactive surpluses. It eliminates the former complete dependence on the inventory, which may

## ATMA study reveals high cost of obsolescence to mills

■ THE DOCUMENTARY study on "profit life" of textile machinery, recently completed by the American Textile Machinery Association, reflects that technological developments in capital equipment have accelerated obsolescence to a degree not fully comprehended until now.

The ATMA study shows that rapid obsolescence through technological improvements and new developments is a factor that cannot be overlooked if a textile mill of today expects to remain in business. It establishes the economic fact that when a machine is obsolete from the standpoint of comparable productive efficiency and payroll savings, its profit life is over. And, once a machine has outlived its profit life, it is an encumbrance to a mill's financial position.

The high cost of obsolescence is demonstrated on a chart issued by the Association which shows that by using modern machinery and improved manufacturing methods a combed broadcloth mill can realize savings on payroll costs of $7,380.00 per week in direct labor (figured at $1.50 per hour average).

Making 136 x 60, 4-yd-per-lb combed broadcloth and producing 40,250 lb of warp yarn and 17,250 lb of filling yarn per 120-hour week, the mill with obsolete equip-

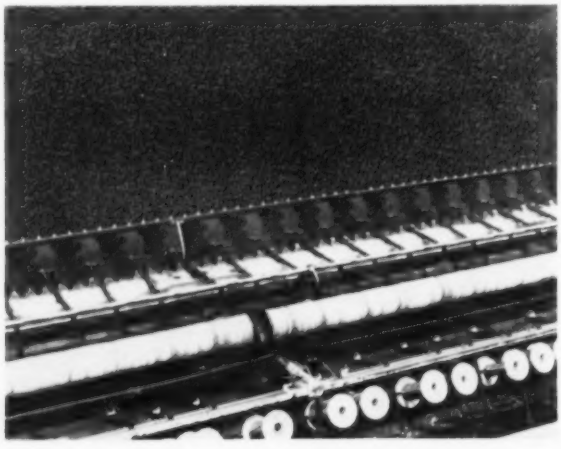
## Mill makes persian-lamb-like pile fabric

■ "DYNACURL," a new fur-like fabric designed to closely resemble genuine Persian lamb, has been developed for the pile coating field by Multitex Products Corporation, West New York, N. J.

Chenille yarn ½" in diameter is curled in this mill-developed machine, capacity of which is 500 pounds per day, or enough for approximately 300 yards of curled-yarn fabric. Yarn is subjected to mechanical action to control curling, and curls are set with heat.

How the curled yarn is continuously stitched to cotton backing according to a predetermined Jacquard pattern in a random design that closely resembles the look of Persian lamb can be seen in this close-up view of the embroidery machine.

*Photos courtesy Union Carbide Chemicals Co.*



be incorrect and which is often incomplete.

6—It helps to control production itself. By leaving in stock amounts indicated in the surplus or "over" column, we decreased cases of misproduction.

Another great advantage is that this method can be started at any time. But begin with one type and count of filling, take the complete inventory of this filling by color and bring it up to date by taking into account requirements and lbs on order, if any. Then proceed with the next color until all the colors of this filling have been completed.

Next go to the next filling type and count and start over again by color. You do not have to complete all filling types, counts, and colors to take advantage of this new method. As a matter of fact, a progressive job may give more accurate results and provide experience in the handling of the whole board when the process is completed.

Finally, further refinements to this control board can be made. For example, the adding of additional rows of pockets to show the poundages required is easily accomplished. This method is flexible enough to be most easily adapted to individual mill needs.

The disadvantages are that, although the method is simple enough, meticulous care should be given to each order of woven goods, and there should be proper recording of each filling delivery at the time of these occurrences. However, we find that this can become a fairly routine activity to a member in a higher echelon of the management team.

Also, we found the construction of a home-made board somewhat time consuming. However, there are several commercially made boards that could be easily adapted to this type of control.

ment in 1950 required 70 employees per 40-hour shift. Today after having been modernized, the same mill requires only 29 employees per 40-hour shift, making possible a 59 per cent reduction in payroll cost.

Machine developments, occurring at a much faster rate than heretofore, have increased the necessity for proper and early recognition of obsolescence on the part of the users, according to the announcement.

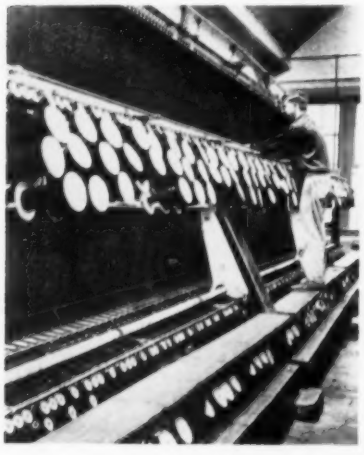
The report also points up the need for total modernization and planned machine replacement over the years if a textile mill is to remain in business in the existing economic climate.

With modern equipment and high automation, approximately a 50% increase in man-hour productivity may be obtained compared to productivity rates existing one decade ago, the study revealed.

In one example cited, a 30,336-spindle carded yarn mill with a six-year planned modernization program realized an increase of production from 4.9396 pounds per man-hour when the program was initiated to 6.5402 at the end of the second year, to 7.4775 at the end of the third, to 8.5708 at the end of the fourth, to 8.909 at the end of the fifth, and to 9.0 at the end of the sixth when the program was completed.

The fabric is said to consist of a pile made with chenille yarn spun with 100% dynel, Schiffli-embroidered to a durable woven cotton backing. The dynel facing comprises 75% of the fabric, the cotton 25%.

Some idea of the size of the 144-needle Schiffli embroidery machine can be obtained from this view. A completed piece of fur-like fabric measures 54 inches by 10 yards.



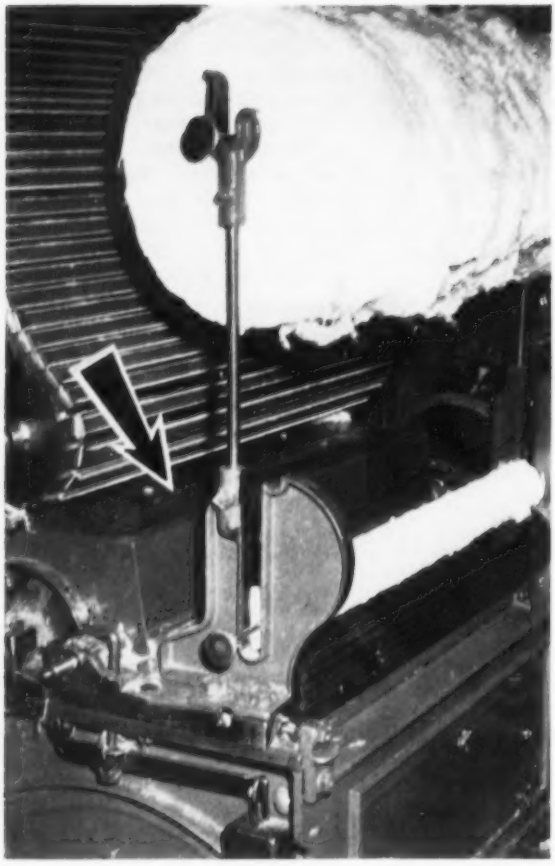
Of chief importance in the manufacture of Dynacurl, according to Multitex, is dynel's thermal pliability which is utilized to heat-set the curls that are characteristic of Persian lamb. The dynel retains its shape and form well, is unaffected by water or moisture, will not mat down, and has excellent abrasion resistance. Because of this, the company reports, garments of the fabric provide long wear life.

*How the Fabric Is Made.* The production of Dynacurl starts with dynel twisted around a core yarn to form a chenille yarn a half inch in diameter. The continuous chenille then goes through a special curling process, using a curling machine developed by Multitex.

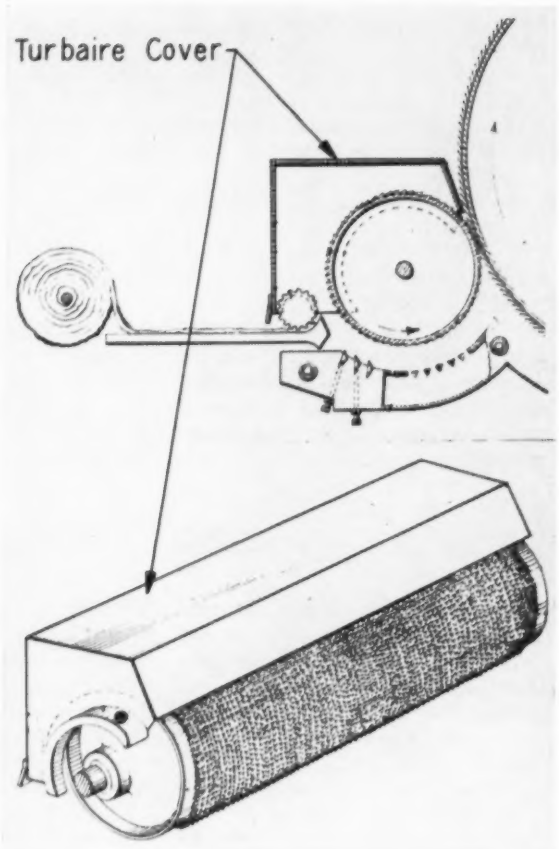
In the curling process, the yarn is conveyed through ridged metal tubes about a quarter inch in diameter. While in the tubes, the yarn is subjected to mechanical action for curling, and the curls are set by heat.

After being curled, the yarn is stitched continuously to a preshrunk cotton backing on a Schiffli embroidery machine. In the "attachment" or re-embroidery Schiffli work, the dynel is arranged on the backing fabric according to a predetermined Jacquard pattern in a random design to achieve the look of Persian lamb.

Multitex employs seven 144-needle Schiffli looms, each having a capacity of 300 yards of Dynacurl per day.



Turbaire changeover is simple and easily accomplished; it is a metal compartment (arrow) which fits in place of standard equipment.




How the Turbaire apparatus replaces the conventional licker-in cover. This sketch is taken from the patent granted to W. M. Hall, Jr.

*Replacement for licker-in cover controls air currents to give more efficient cleaning*

# *Cuts card waste 80%*

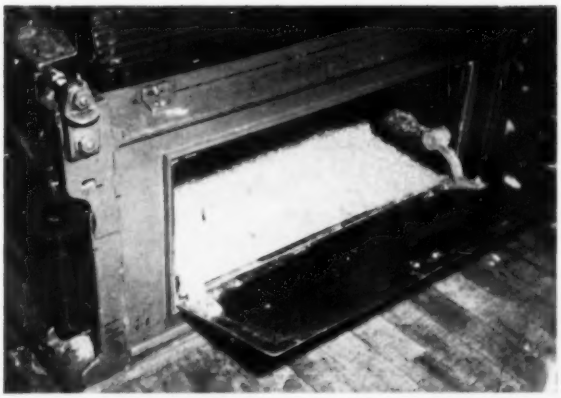
Staff prepared
Exclusive

MILL TESTS have shown that a new apparatus designed to replace the present licker-in cover has a pronounced effect on the amount of cleaning done to stock passing through the card. The plate which covers the licker-in was removed and replaced by a series of baffles to deflect the air. The baffles break up the boundary layer of air and control it to give more efficient cleaning.

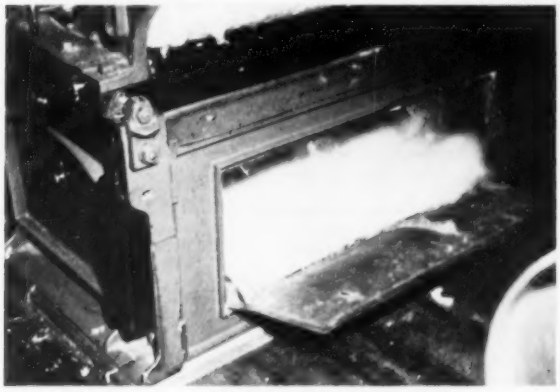
The device is called the "Turbaire" cleaner. Simple and easy to install, the cleaner has no moving parts. Upon installation the unit becomes part of the card and requires no maintenance. An 80% reduction in card waste is shown.

The baffles incorporated in the Turbaire cleaner are arranged to strip a portion of the boundary layer of air which follows the cylinder and direct this air to create a low pressure area above and behind the licker-in. This low pressure area serves to accumulate the lint particles which would normally be thrown through the grid bars or mote knives into the fly bin. The usable fibers accumulated in this low pressure area are formed into a roll and fed back into the carding process in the form of a thin batting or sheet.

THE PROPORTION of trash and lint in the fly waste is reversed. A careful study was made using various types of card screens and varying the length of the licker-in screen, position of the mote knives, and number of bars in the licker-in screen. Table I shows some Shirley Analyzer results of lint and trash by per cent using various combinations of screens with and without the Turbaire cleaner.



Lower grade waste, containing more motes, leaf, and other foreign matter, is evident in this photo of a card equipped with Turbaire.



Note relatively high grade of waste and amount of fibers removed in this photo of a card equipped with conventional licker-in cover.

Closeup of waste removed from comparable cards, carding the same stock; sample on right came from card equipped with Turbaire device.

The waste studies in Table I were made in a North Carolina mill using Memphis territory Middling 1 1/16-inch cotton. The cotton from the cards in Table I was processed into yarns, and in no instance was there a decrease in either yarn grade or strength.

Experience with the Turbaire indicates that the device is well adapted to the extra long staple, roller gin varieties, such as Karnak, Sak, Pima, and Supima.

TABLE II shows a waste study made on a card running American-Egyptian cotton, grade four, 1 7/16-inch staple. This card was stripped and ground and outfitted with a new set of screens and run for a three-hour carding period. The waste samples from all of the components of the card were drawn, weighed, and analyzed. The card was then equipped with a Turbaire cleaner, and the same test was repeated.

After carding tests were completed, sliver from cards with and without the cleaner was processed into yarn for spinning tests. The

**TABLE I**

**Shirley Analyzer Results**

| | Content by Per Cent | | |
|---|---|---|---|
| | **Lint** | **Trash** | **Invisible** |
| Card No. 2, Sample No. 1 Dixie Concentri-screen, Long 5-bar, with "Turbaire" | 6.02 | 81.85 | 12.13 |
| Card No. 2, Sample No. 2 Long 5-bar Screen | 55.60 | 28.90 | 15.50 |
| Card No. 1, Sample No. 1 9-bar Screen with "Turbaire" | 27.30 | 51.97 | 20.73 |
| Card No. 1, Sample No. 2 9-bar Screen | 51.55 | 29.15 | 19.30 |
| Card No. 3, Sample No. 1 Short 5-bar Screen With "Turbaire" | 9.80 | 76.40 | 13.80 |
| Card No. 3, Sample No. 2 Short 5-bar Screen | 53.20 | 29.60 | 17.20 |

TABLE II

| | Lap Staple Length* | Fly Staple Length | Strip Staple Length | Sliver Staple Length | Sliver Weight | Sliver Production |
|---|---|---|---|---|---|---|
| Card No. 1 (Old) | 1.34 | 1.23 | 1.22 | 1.35 | 39.9 gr | 84437.5 gr 12.1 oz |
| Card No. 1 "Turbaire" | .135 | .22 | 1.17 | 1.37 | 43.3 gr | 89300 gr 12.8 oz |

| | Flat Strips Waste | Cylinder Doffer | Scavenger Waste | Fly Waste | Total Waste |
|---|---|---|---|---|---|
| Card No. 1 (Old) | 4269.5 | 899.5 | 115.5 | 2398.5 | 7683.0 gr |
| Card No. 1 "Turbaire" | 3918.5 | 938.0 | none | 1114.5 | 4971.0 gr |

Shirley Analyzer Results Before and After "Turbaire"

| | Lint | Trash | Invisible | Total Waste |
|---|---|---|---|---|
| Card No. 1 (Old) | 4552 | 897 | 251 | 5700 gr |
| Card No. 1 "Turbaire" | 127 | 1059 | 57 | 1243 gr |

*The cotton used in this study was American-Egyptian, grade 4, 1 7/16".

cards were made as nearly equal as possible with the exception of the cleaning device before obtaining test specimens. Results of the spinning tests are shown in Table III.

Another significant notation was that a substantial reduction in fly is experienced, with a slight increase in flat strips. Further, without altering or adjusting the combers, the mill is extracting approximately two per cent less noils and experienced a moderate increase in yarn grade and strength. This mill produces a high grade of thread yarns.

The patent on the device is owned by W. M. Hall & Sons, Belmont, N. C.

TABLE III

Spinning Tests

| | Roth-Regular | Roth-"Turbaire" |
|---|---|---|
| Yarn No. | 75.5/2 | 74.7/2 |
| Skein Break | 105 | 110 |
| C x S | 3958 | 4089 |
| T.P.I. | | |
| singles | 31.0 | 29.7 |
| ply | 29.4 | 29.6 |
| Actual T.M. | 5.05 | 4.86 |
| Variation (%) | 75.66 | 65.92 |
| Integration | | |
| Variation | 13.65 | 12.34 |
| Single End | | |
| Break (gm) | 371 | 390 |
| C.V. (%) | 10.5 | 8.4 |
| Elongation (%) | 5.0 | 5.1 |

## News briefs

*(from page 87)*

disposable personal income spent on textiles receded from 10.5% in 1947 to little more than 7% in 1956." — *Value Line Investment Survey.*

**Shirts Top Cotton List.** Men's and boys' shirts used 595,000 bales of cotton last year, making shirts the number one cotton product, according to preliminary figures released by the National Cotton Council. Sheets consumed 569,000 bales, and drapery and upholstery fabrics took 567,000 bales. Others in the top ten: men's and boys' trousers, towels, men's and boys' underwear, automotive uses, dresses, rugs and carpets, and retail piece goods, in that order.

**Synthetic Fabrics Production.** Production of broad woven goods of man-made fibers and silk was 560 million linear yards in the second quarter of 1957—2 per cent below the first quarter 1957 level, and 1 per cent below the second quarter 1956 output, according to the Bureau of the Census. Rayon and acetate fabric production was 3 per cent below the previous quarter, and 13 per cent less than the output during the comparable period of 1956. Production of other man-made fiber fabrics, including silk, was at about the same level as the previous quarter and 31 per cent above the second quarter of 1956.

# WEAVING FACE-TO-FACE CARPETS

by Burgess O. Worcester
Exclusive

PRE-WAR attempts to weave two carpets simultaneously were not very successful, but the last decade has altered this to a startling degree in narrow work, both plain and Jacquard. (The wide looms are successful where they are successful — otherwise they are headaches for the loom fixers.)

*Plains.* There is no gainsaying the tremendous advantages of plain face-to-face weaving, where continuity of running, speed of production, and even quality of work out-point the orthodox wire loom. The latter can now be relegated to fulfilling short orders, Brussels work, high and low pile, and the occasional three-shot structures.

The plain double-carpet loom can deal with any type of carpet yarn from the loftiest woolen to a fine smooth synthetic—obviously, for a high-speed production job such as this, materials should be strong and reliable. It can be set to a high pitch and use odd weaves up to four (more are possible) pile shafts.

The common structure of course is the ordinary two-shot, and *Figure 1* shows this in the double-weave effect. This sketch is distorted to show how top and bottom picks enter the fabric together, but after the beat-up they are correctly aligned above and below the stuffer warp. The double carpet is moving from right to left, and the simultaneous face and back shots are numbered 1, 2, 3, 4, which makes a repeat.

A popular make-up here [in England] is using 2/50 yards per oz woolen yarn at 8½ per 1″, 9 rows per 1″, with a two-ply stuffer of 1/15 lb jute warp, a 3/7s cotton chain warp, and a 1/15 lb jute filling. The controlled let-off by geared nip-rollers makes for accurate control of pile yarn usage.

The potentialities for structure and color effect on these plain looms have not been fully realized. For instance, the use of two pile shafts only can produce an effective mottle when using two varicolored warps. Rainbow stripes and small honeycomb effects are also very acceptable when running half the number of pile ends per beam, sometimes using a thick yarn, doubled, say, two ends by 2/50 yards per oz woolen, or a single 2/50 in extra high pile, in arrangement as in *Figure 2*.

When designing for more than two shafts, the thing to remember is that the unit is a half-tuft, for once the pile has left the top carpet, it will not return from the bottom until expressly arranged to lift so. The great popularity of plain colors has inhibited the use of many pile shafts by designers, but the day could be foreseen when pile structure and color would be wedded as in lighter textiles.

A final word on plains. Some

Figure 1. Structure of face-to-face plain Wilton, distorted to show how the two shuttles place face and back picks together alternately in the two carpets.

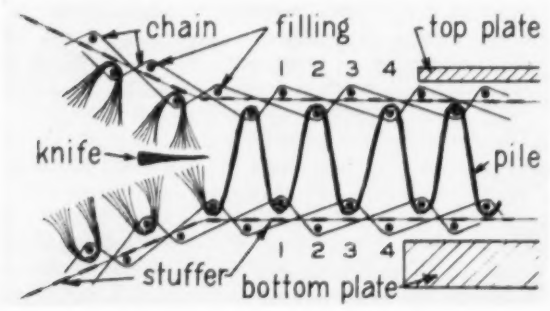
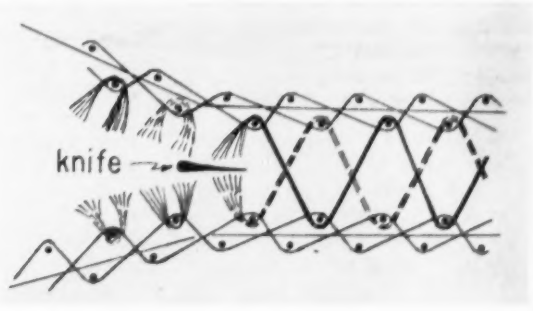



Figure 2. Mixed pile weave—two pile beams of different colors. Rainbow stripes and small honeycomb effects can be obtained by using this method.



American carpet manufacturers weave on face-to-face looms a light fabric based on the pile fabric or moquette principle. Instead of the authentic carpet backing of stuffer and chain warps, there is merely a "tight" and a "slack" cotton warp. The tight warp lies straight in the middle of the carpet, and the filling shots enter alternately above and below this. The slack warp binds the fabric together, pulling first the top shot then the bottom shot against the tight warp. The pile is generally held by the top shots, but for better anchorage may reach to the back shot.

The resultant carpet is, comparatively speaking, on the flimsy side, and is accordingly excellent for subsequent rubberizing on the back, where there is easy penetration, or for plastic back treatment. These looms are not heavy enough, or sufficiently precise in engineering, to permit of weaving all types of carpet.

*Single Jacquard.* Before going on to discuss the true double Jacquard which keeps in step with the modern face-to-face loom, a word may be said of the ordinary carpet Jacquard when used with this type of weaving.

Obviously, the whole of the pile yarn must lift from the bottom and return to the bottom. This means that the whole of the dead yarn (i.e., yarn lying in the middle of the carpet when not required to lift in the pattern) is in the bottom carpet, which is exactly as when made on the orthodox wire loom.

When the pile is lifted by the single Jacquard, instead of it being caught by the pile wires, it is held by the filling of the top shuttle. No dead yarn lies in the top carpet, however, which resembles an Axminster top in this respect. Those experienced in pile fabric weaving will no doubt have seen this effect produced.

The result of this weave, then, is a top fabric with tufting colors only, and a bottom fabric which is an orthodox Wilton. The designer therefore will need to add bulk to the top carpet in the shape of more or thicker stuffer warp. He will also perhaps decide to cheapen the top carpet even more by reducing the height of pile, incidentally increasing at the same time the pile height of the bottom carpet. Two commodities are therefore produced together for quite different markets, and the design used must be one which will sell in those (perhaps opposing) markets.

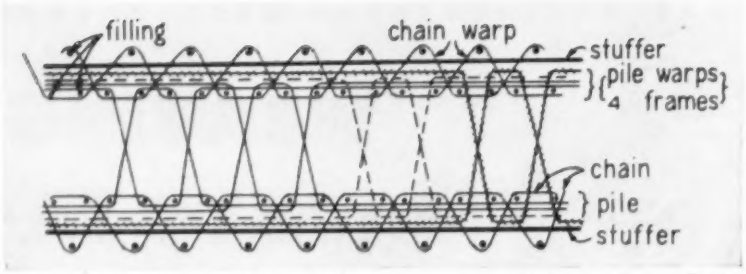



Figure 3. Four-frame, three-shot, face-to-face weave, using eight frames of yarn. Section cut across filling.

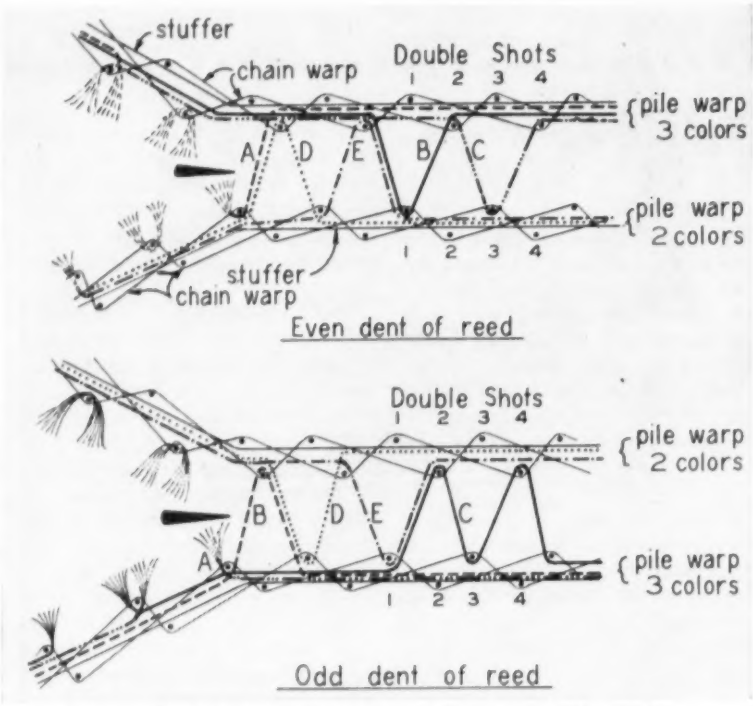



Figure 4. Face-to-face carpet; two-shot, five-frame weave. Warp section.

*Double Jacquards.* The position with regard to Jacquard face-to-face weaving is rather different from plains. Here one cannot do quite everything that the ordinary wire loom can do, either in the matter of design or in use of materials. This no doubt explains certain misconceptions and prejudice on the subject. But there is such a variety of work that is easy to produce that one finds, in mills with face-to-face looms, that the remainder of the Wilton production gradually dwindles into a minority.

Face-to-face Jacquards cannot produce a perfectly-straight line, because of the half-tuft occurring at the change of color. "Very good, make the design fit the loom!" seems to be the answer. The many varieties of contemtemporary work—ground shades interspersed with dots, random figures, and flowing odd motifs—

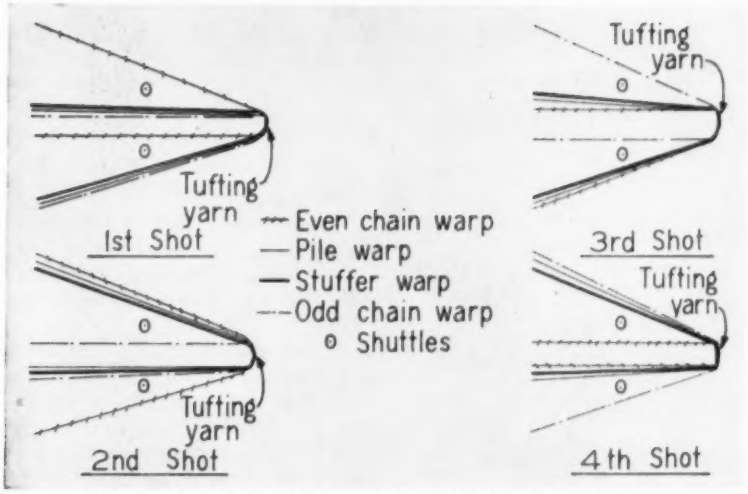



Figure 5. Warp positions of four-shot repeat of two-shot face-to-face Jacquard structure.

are meat and drink to this loom, so why not leave the precisely-bordered classical patterns to the orthodox pile wire type?

Some firms have trouble weaving loose-twisted woolen yarn. Again, the answer seems to be, use a slick synthetic or mixture yarn. Or, for the very best trade, use a fine worsted and astonish the customer by producing a 15-row per inch Wilton, something that cannot be done on a wire loom.

Outside of the fact of much lower labor costs in face-to-face weaving, which do not concern this article, there is now a satisfaction of the long-felt need in Wilton work for economy in "dead" yarn. *Figure 3* shows a warp section from a very early type of double-carpet design, where there was no saving at all in pile yarn. The bottom half of this three-shot weave, using four frames, is duplicated in the top. Four frames are used for *each* carpet, and the creel space consequently needed behind the loom may be imagined! Worse, the bulk of yarn lying in the heddles and Jacquard bands would be the despair of almost any weaver.

Hence the necessity for achieveing face-to-face weaving without employing any more pile ends than would be used in weaving one carpet alone. The true three-shot structure (i.e., with pile held under two shots) is not practicable for this purpose, and *Figure 4* illustrates a warp section across the filling taken from an odd dent of the reed, and a similar section taken from an even dent. These will be fully explained later, and will serve now to show the saving of dead yarn.

Some people appear to desire the "advantages" of *Figure 3*, with its four frames of dead yarn in each carpet, and look only for labor-saving in double-carpet weaving. One ventures to think the wish for dead yarn is an old-fashioned fetish. The "cushioning" effect of four frames in the middle of the carpet could, if necessary, be easily provided by a rubberized or plastic back, or deeper underfelt. Judging by laboratory tests—plucking and wearing—the life of the fabric does not depend on the dead yarn packed inside it.

Again, for the highest-class trade it may be argued that the "bind" of a two-shot weave is insufficient. Very good, then cram the shots so closely together that they will give a result like moquette velvet, when laboratory tests can show a bind equal to any three-shot woven on a pile wire loom! How does this come about? The reason is not far to seek. There are no pile wires in face-to-face weaving. So, given a linen or cotton filling, and remembering the weight of metal going into the beat-up of these looms, there is nothing to prevent an astonishingly high number of shots going into the carpet. With a 14-lb jute it is possible to bump in more than 15 shots per inch. What wire loom could do that? Imagine the result when shuttling a fine cotton!

Now return to *Figure 4*, where the designer will no doubt be asking for more details. In the bottom comberboard (see Figure 7) there are three courses (i.e., units of five colors from five frames) per row of 15 holes, and there is a special arrangement for drawing-in the ends in two's and three's in order to spread the dead yarn equally between top and bottom carpets. In the odd courses, the first two ends are activated from the front half of the Jacquard and belong to the top carpet, while the remaining three are controlled by the back half of the Jacquard and belong to the bottom carpet.

The even courses (in even dents) are in the opposite order, the first two ends being for the bottom carpet, and the remaining three for the top, and so on; odd dents contain two ends for the top, and even dents two for the bottom.

So, in a five-frame design the average over each carpet is two frames of dead yarn and one which is tufting between them. This is a saving of half the amount of dead yarn as used in a wire loom.

Now to follow the arrangement in *Figure 4* of alternate three ends and two ends. In the odd dent, there are three colors marked A, B, and C which return to the bottom carpet, whereas D and E return to the top. In the even dent of the reed, two colors marked D and E return to the bottom carpet, and three colors marked A, B, and C to the top.

For a two-frame pattern, one end of dead would probably be used in every odd course only, in the bottom carpet. The single end of dead in the top carpet would then be in every even course only. This averages over the piece at ½ frame dead yarn per carpet. Three- and four-frame designs have similarly average proportions of 1 and 1½ frames of dead yarn, respectively, in each carpet. This again is only half of what would be necessary in a wire loom.

Referring again to *Figure 4*, it will be seen that the crossing of

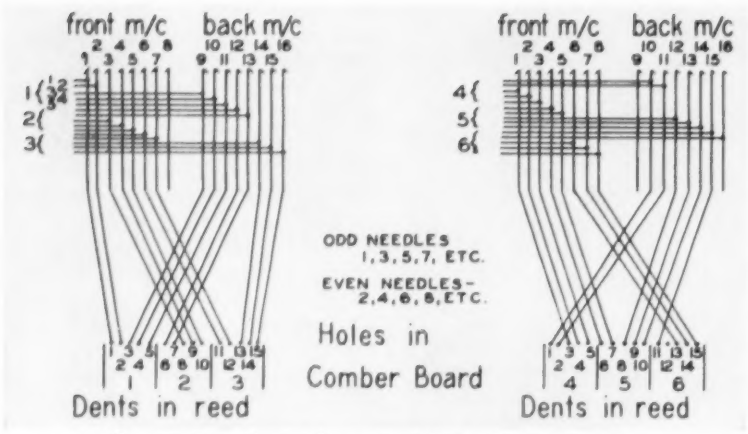



Figure 6. Tie-up for five-frame, two-shot, face-to-face Jacquard.

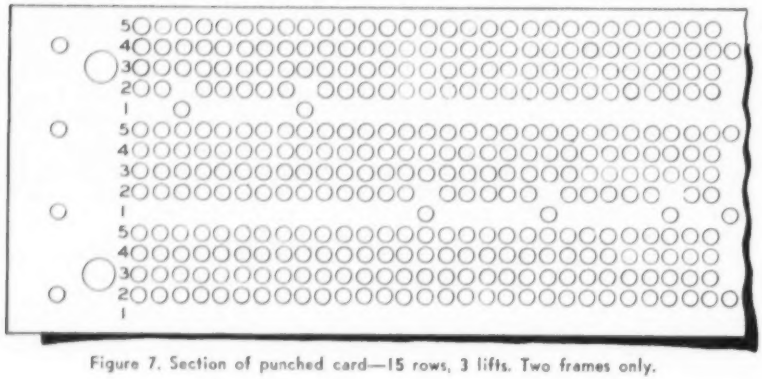


Figure 7. Section of punched card—15 rows, 3 lifts. Two frames only.

pile yarns at the change of color can result in a double leg of tuft, or a half-tuft. This is what causes a slight imprecision in line, scarcely to be noticed in modern patterns, or indeed in any except the closest weaves.

It is the business of a Jacquard to raise the pile yarn desired for tufting, and also to lift the pile yarn dead into the center of the carpet. The designer will doubtless wish to learn how this is effected in a double-carpet weave.

*Jacquard Lifts.* The function in the case of the top carpet is to *drop* the pile yarn for tufting through both warp sheds to the bottom during odd picks (see *Figure 4*). Its function is, also, to drop the dead yarn to the middle of the two sheds — again during odd picks. And, it is to raise all the top carpet's pile yarn to the topmost point, during even picks.

The function in the case of the bottom carpet is to *raise* the pile yarn for tufting through both sheds to the topmost point, during even picks. Also to raise dead pile yarn to the middle of the two sheds during even picks. And to drop the bottom carpet's yarn to the very bottom during odd picks.

The positions of the warps in the four-shot repeat of the face-to-face two-shot weave are illustrated in *Figure 5*.

Now to the mechanism regulating the lifts. Briefly, there are two parts to the Jacquard—the front governing the top carpet pile yarn, and the back governing the bottom carpet. The front hooks face to the front of the loom, and the back hooks to the rear. By leverage, the back hooks are caused to travel about twice the distance of the front hooks. This is in order to lift the bottom pile yarn through the distance of two warp sheds. Compensating this movement, the moving board (on which the hooks rest) of the front Jacquard travels about twice as far as the moving board of the back. This enables the top pile yarn to be lowered through the distance of two warp sheds.

The dead pile yarn is regulated similarly. The card cylinder *pushes away* from the griffe those hooks in the front Jacquard required for tufting. The hooks left on the griffe are then carried the half-distance to the middle position. Because the tufting hooks rest on the bottom board—which goes the full distance—they reach the bottom position. In the back Jacquard, the reverse is the case. The griffe moves the full distance upwards with the hooks for tufting (the card cylinder having *pushed on* these to the griffe) and the dead yarn hooks are carried to the middle position by the moving board, which only moves the half-distance.

The Jacquard cards each press twice on the needle board, once at the bottom stroke of the griffes, and once at the top—first for pushing on hooks of the back machine, and second for pushing off hooks of the front machine. *Figure 6* shows a tie-up of the harness for a double Jacquard. This gives an odd and an even row of 15 holes, each comprising three courses (of five pile ends from the five frames)—one course per dent of reed. In the even row, the tie-up is changed from back to front and front to back. This ensures even balance of yarn between the two halves, and helps to eliminate half-tufts and double tufts.

*Figure 7* shows part of a punched card for 15 rows. This is punched for three tufts. Blanks control lifts. Only two frames are punched.

The top carpet being a "reflection" of the bottom (i.e., the bottom as seen in a mirror), the two carpets cannot be used for matching unless the design is symmetrical, or unless a suitable "drop" pattern is used. The ingenuity of the designer can of course work within these limits to produce a great variety of matching fabrics.

# Improve drawing sliver uniformity

*The effect of doublings and drafts at the drawing process on the evenness of sliver and roving and on yarn properties*

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Exclusive

REDUCTION in the variation of linear density in sliver, roving, and yarn, caused by roller drafting, is a problem which spinners of cotton yarns have been trying to solve for a long time. Studies (1-21)[3] dealing with the functions of the drafting section of the conventional four-roll drawing frame contribute to a better understanding of the effect of draft on product uniformity.

These studies indicate that yarn evenness and strength are effected by: (1) doubling, which reduces the variation in linear density incurred in previous processes; (2) drafting, which introduces new irregularities of equal or greater magnitude; and (3) degree of parallelism of the fibers, by the action of the drafting rolls.

The measurable yarn properties cited were: (1) weight per unit length, (2) diameter, (3) strength, (4) twist per inch, and (5) appearance. These studies also revealed that variability of the last four properties is closely related to the first — the weight per unit length. Moreover, it was found that short-term variation is the chief cause of yarn nonuniformity.

Most of these studies have dealt chiefly with the effect of proportionment of draft between drafting zones of a single drawing process on the variation in linear density of sliver.

A better knowledge is needed of the effect on sliver, roving, and yarn properties of the proportionment of doublings and drafts on and between two drawing processes.

The phase of the study covered by this report deals with the effect on the uniformity of drawing sliver and roving and on yarn properties of doubling, and tension draft in the middle drafting zone, coupled with proportionment of draft be-

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[3]Numbers in parentheses refer to literature references at end of article.

**TABLE I. Fiber Properties and Classer's Evaluation**

| Length | | | | | | Fineness | | | | Classer's Evaluation | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Suter-Webb | | | Fibrograph | | | Suter-Webb | Micronaire | | | | |
| U.Q.L. (in.) | M.L. (in.) | C.V. (%) | U.H.M.L. (in.) | M.L. (in.) | U.R. (%) | micro-grams/in. | Index | Maturity NaOH (%) | Pressley Index lb/mg | | Grade Length (in.) |
| 1.16 | 0.94 | 32 | 1.08 | 0.90 | 33 | 4.0 | 3.9 | 86 | 8.24 | M | 1 1/16 |

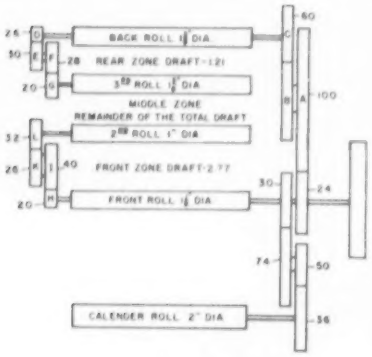


Fig. 1. Schematic diagram of drawing frame.

**TABLE II. Effect of Doubling on the Evenness in Linear Density of First Drawing Sliver**

| Test No. | No. of Ends of 40 gr/yd Card Sliver Fed | Draft | Coefficient of Variation % 80 gr/yd Drawing Sliver Produced | |
|---|---|---|---|---|
| | | | Within Yard | Yard to Yard |
| 11 | 4 | 2.00 | 3.29 | 2.66 |
| 18 | 5 | 2.50 | 5.99 | 1.76 |
| 17 | 6 | 3.00 | 8.37 | 1.27 |
| 19 | 7 | 3.50 | 8.42 | 1.24 |

tween drafting zones and to a limited extent roll settings and roll weights at the drawing processes.

Another phase of the study is in progress, which deals with the effect of proportionment of doublings and drafts between two drawing processes on the uniformity of sliver and roving. It will be reported at a later date.

*Materials and Methods.* The physical properties of the cotton, Stoneville 2B, are shown in Table I.

A 12½-oz picker lap was carded into 40 and 65 grain/yd sliver. The drafting experiments on sliver were conducted on a single delivery drawing frame equipped with cushion-type, dead-weighted drafting rolls. Figure 1 shows schematically a machinery manufacturer's distribution of draft between drafting zones and arrangements of gears used on first and second drawing processes.

Evenness evaluations were made on each lot of card and first and second drawing slivers with a modified Saco-Lowell[1] sliver tester (22). Twenty-yard samples were used, with measurements taken at intervals of one inch throughout the sample (16).

Rovings and yarns were tested for mean deviation on the Uster evenness tester, using integrator readings. Forty observations were made with a material speed of 8 yards per minute on a total of 800 yards of each hank roving. Twenty observations were made with a material speed of 25 yards per minute on a total of 1250 yards of each yarn number.

Skein strength and yarn number were determined on yarns in accordance with specifications of the American Society for Testing Materials (23). Skein tenacity was computed as the product of breaking load in pounds multiplied by yarn number. Single-strand yarn strength determinations were made on the automatic Uster single-strand tester, using a gauge length of 20 inches between clamps and an average time of 10 seconds to break each sample. A total of 200 yarn breaks were made, 20 from each of 10 bobbins of yarn, and the average yarn number was calculated from the weight and length of the broken yarns. Yarn tenacity was computed as the product of breaking load in grams multiplied by yarn number.

*Procedure.* The results of the work are presented and discussed in two sections in this report. First, the effect of doublings, roll settings, draft, and drafting roll pressures or weightings on the evenness of first drawing sliver was investigated. Second, experimental organizations employing selected combinations of drafts, doublings, roll settings, roll weights, and a control organization were used to process sliver, which was further processed into roving and yarn. The properties of the experimental sliver, roving, and single yarn were then compared with those properties of the control.

As nearly as practicable each variable was changed systematically while the others were held constant. In different experiments the effect of: (a) doubling of slivers fed, (b) drafts, (c) roll settings, and (d) top roll weights on the evenness of sliver were investigated. In practice, doubling of slivers and drafts are related in such a way that a change in one produces changes in the other.

*Discussion of Results.* In comparing the effect of doubling on

[1]The mention of trade products does not imply their endorsement by the Department of Agriculture over similar products not mentioned.

the evenness of sliver, a short range of draft was used experimentally for the purpose of minimizing the effect of draft and emphasizing the effect of doubling, as shown in Table II. Therefore, in discussing within-yard variation of the sliver shown in Column 4, it should be realized that the coefficients of variation are to some extent the composite effect of doubling and drafting.

On this basis, it may be seen that the within-yard coefficients of variation of the sliver increased from 3.29 to 8.42 per cent as draft was increased from 2.00 to 3.50 and the number of slivers fed increased from 4 to 7. On the other hand, the yard-to-yard coefficients of variation shown in Column 5 decreased from 2.66 to 1.24 per cent as the number of slivers fed was increased from 4 to 7 and draft increased from 2.00 to 3.50. The variation of a sliver that was produced with 8 doublings and a draft of 4.00 exceeded the recording range of the sliver tester and could not be measured.

These data showed that draft and the number of slivers fed were related directly to the linear density within the yard and inversely to the linear density, yard-to-yard, of the sliver produced.

The best proportionments of draft between drafting zones of the first drawing process were determined from coefficients of variation of sliver shown in Table III.

*This article shows that in one-process drawing:*

1. *If slivers fed and total draft are increased, within-yard variation increases, yard-to-yard variation decreases.*
2. *Sliver uniformity is improved if middle drafting zone rolls are set closer together than customary.*
3. *For a total draft of 6.00, rear zone drafts of 1.56 to 2.00 give the most uniform sliver.*
4. *Heavy roll weights improve sliver uniformity.*

It was observed that the lowest coefficient of variation of 80 grain/yd drawing sliver was obtained with the proportionment of draft shown for test No. 30. Moreover, the small differences between coefficients of variation of sliver from tests No. 30, No. 12, and No. 10 indicated that, with total draft as low as 2.00, probably most of the drafting could have been done in the rear zone with comparable variation of the resultant sliver.

The 65 grain/yd sliver found to have the lowest coefficient of variation was processed with draft proportionments of test No. 34. A comparison of the coefficients of variation of sliver for test No. 34 with those for tests Nos. 35 and 36 indicated that, with a total draft of 6.00, the most uniform sliver was obtained with a rear zone draft of 2.00.

Moreover, it was observed that in every case the coefficients of variation were lower when 65 grain/yd slivers were processed with a tension draft in the middle drafting zone than when those slivers were processed with the typical distribution of drafts shown for test No. 40. These results confirm previous findings (9, 11, 12, 13, 17).

The drafting roll settings used for this work with a tension draft in the middle drafting zone were based on assumption and experimental procedure. The function of the middle drafting zone (Figure 1) when using a tension draft becomes mainly that of a transfer medium from the rear to the front drafting zone. It was assumed that more uniform sliver could be processed with rolls of the middle drafting zone set with the space between rolls closer than customary when drafting in this zone, and with the rolls of the front and rear drafting zones set as usual when using typical distributions of draft between the drafting zones.

*Table IV* shows the roll settings, sliver, weights, drafts, doublings used, and resultant uniformity of the sliver. In determining the roll settings for the middle drafting zone which yielded the most uniform sliver, evidence from two sources was considered: coefficients of variation in the last column of Table IV; and the fiber weight-length distribution curve derived from the Suter-Webb fiber array shown in Figure 2.

Table IV shows coefficients of variation of from 2.11 per cent to 2.26 per cent for 80 grain/yd sliver processed from 4 ends of 40 grain/yd card sliver for test No.

**TABLE III. Effect of Draft Distribution on the Uniformity of First Drawing Sliver**

| Test | Zone Drafts | | | Coefficient of Variation—% |
|---|---|---|---|---|
| | Front | Middle | Rear | First Drawing Sliver, Within Yard |
| Y[1] | | | | |
| 30 | 1.68 | 1.00 | 1.19 | 2.21 |
| 12 | 1.46 | 1.00 | 1.38 | 2.49 |
| 13 | 1.32 | 1.00 | 1.53 | 3.42 |
| 15 | 1.21 | 1.00 | 1.67 | 2.94 |
| 10 | 1.06 | 1.00 | 1.89 | 2.36 |
| Z[2] | | | | |
| 40 | 2.77 | 1.79 | 1.20 | 4.57 |
| 35 | 3.36 | 1.00 | 1.56 | 3.21 |
| 34 | 3.04 | 1.00 | 2.00 | 3.07 |
| 36 | 2.45 | 1.00 | 2.46 | 3.59 |

[1] 80 gr/yd drawing sliver processed from four ends of 40 gr/yd card sliver.
[2] 65 gr/yd drawing sliver processed from six ends of 65 gr/yd card sliver.

11, test No. 30, and test No. 22 with middle drafting zone rolls set from 1¼ inches to 1½ inches apart. The difference in coefficients of variation between these slivers was too small to indicate which roll setting yielded the more uniform sliver.

Fig. 2. Cumulative fiber weight-length percentage diagram.

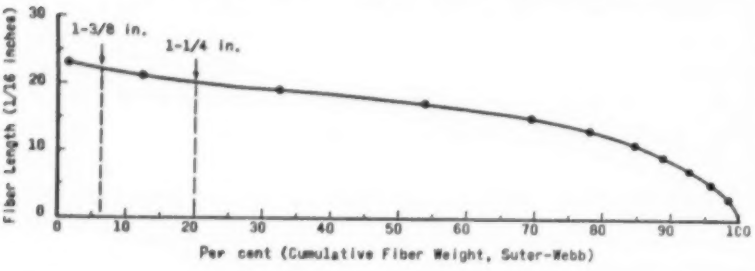


**TABLE IV. Effect of Middle Zone Roll Settings on the Uniformity of 80 gr/yd First Drawing Sliver**

| Test No. | Drafting Zone Roll[1] | Coefficient of Variation—% First Drawing Sliver Within Yard |
|---|---|---|
| Y[2] | | |
| 11 | 1¼ | 2.11 |
| 30 | 1⅜ | 2.21 |
| 22 | 1½ | 2.26 |
| 21 | 1 11/16 | 2.69 |
| Z[3] | | |
| 24 | 1 5/16 | 4.90 |
| 25 | 1⅜ | 4.87 |
| 27 | 1 9/16 | 4.61 |
| 26 | 1⅝ | 4.59 |

[1]Settings: front, 1 5/16"; rear, 1 5/8"; middle, 1 1/4" to 1 11/16".
[2]40 gr/yd card sliver; four ends fed. Zone drafts: front, 1.68, middle, 1.00; rear, 1.19.
[3]65 gr/yd card sliver; six ends fed. Zone drafts: front, 2.49; middle, 1.00; rear, 1.95.

**TABLE V. Effect of Drafting Roll Pressure on the Uniformity of First Drawing Sliver**

| Test No. | Coefficient of Variation—% Within Yard of First Drawing Sliver[2] | |
|---|---|---|
| | Conventional Roll Weights[1] | Heavy Roll Weights 76 lb on each line |
| Y[3] | | |
| 40 | 4.57 | 4.19 |
| 35 | 3.21 | 3.38 |
| 34 | 3.07 | 2.80 |
| 36 | 3.59 | 3.61 |
| Z[4] | | |
| 30 | 2.21 | 2.03 |
| 12 | 2.49 | 2.03 |
| 13 | 3.42 | 2.27 |
| 15 | 2.94 | 2.94 |
| 10 | 2.36 | 2.41 |

[1]Conventional roll weights in pounds:
For 65 gr/yd sliver: front, 36; 2nd, 40; 3rd, 44; rear, 48.
For 80 gr/yd sliver: front, 32; 2nd, 36; 3rd, 40; rear, 44.
[2]Table III shows draft distributions used on drawing frame.
[3]65 gr/yd drawing sliver, six ends 65 gr/yd card sliver fed.
[4]80 gr/yd drawing sliver, four ends 40 gr/yd card sliver fed.

Examination of fiber length distribution data (Figure 2) shows that, with rolls set 1¼ inches apart, the length of approximately 20 per cent of the fibers by weight exceeded the distance between bites of the drafting rolls; with the rolls set 1⅜ inches apart, the length of approximately 6 per cent of the fibers by weight exceeded the distance between bites of the drafting rolls; and with a 1½-inch roll setting the distance between bites of the rolls exceeded the length of the longest fibers in the fiber length distribution by 1/16 inch.

These data were interpreted to show that better drafting of 80 grain/yd was obtained with middle zone drafting rolls set from 1⅜ inches to 1½ inches apart and there was no breakage of fibers apparent as the result of these close roll settings.

Using the same procedure, it was found that a middle drafting zone roll setting of from 1 9/16 inches to 1⅝ inches processed the more uniform 80 grain/yd sliver from 6 ends of 65 grain/yd card sliver. It may be seen in Figure 2 that the distance between drafting rolls exceeded the length of the longest fibers in the fiber length distribution by ⅛ to 3/16 inch. The wider spacing of rolls with respect to fiber length required for processing 65 grain/yd card sliver than to process 40 grain/yd card sliver is probably due to the different rear zone draft and the relationship between tension draft and the mass of fibers passing through the middle drafting zone.

To determine the effect of drafting roll pressure on the variation of sliver, 80 and 65 grain/yd slivers were processed, using light and heavy drafting roll weights. The resultant coefficients of variation are shown in Table V.

Lower coefficients of variation were obtained for three out of five of the 80-grain and for two out of four of the 65-grain slivers processed with heavy weights on each line of drafting rolls. The heavier weights on the drafting rolls in most cases possibly reduced to some extent the variation of sliver attributed to roll slippage and con-

**TABLE VI. Processing Organizations for Sliver, Roving, and Yarn**

| Yarn Organization | Card[1] | | First Drawing[2] | | | | | Second Drawing[2] | | | | | Hank Roving | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wt Lap oz/yd | Wt. Sliver gr/yd | No. of Ends Fed | Wt. Sliver gr/yd | Zone Drafts Front | Mid. | Rear | No. of Ends Fed | Wt Sliver gr/yd | Zone Drafts Front | Mid. | Rear | 2.33 Yarn | 3.00 Numbers | 3.33 |
| Control[3] | 12 ½ | 65 | 6 | 65 | 2.77 | 1.79 | 1.21 | 6 | 65 | 2.77 | 1.79 | 1.21 | 28 | 36 | 40 |
| A[4] | 12 ½ | 65 | 6 | 65 | 2.77 | 1.79 | 1.21 | 6 | 65 | 2.77 | 1.79 | 1.21 | 28 | 36 | 40 |
| B[4] | 12 ½ | 65 | 6 | 65 | 3.00 | 1.00 | 2.00 | 6 | 65 | 3.00 | 1.00 | 2.00 | 28 | 36 | 40 |
| C[4] | 12 ½ | 40 | 4 | 80 | 1.68 | 1.00 | 1.19 | 6 | 65 | 3.69 | 1.00 | 2.00 | 28 | 36 | 40 |

[1]Carded at 10 pounds per hour.
[2]Front drafting roll speed 136 feet per minute.
[3]Top drafting roll weights 36 pounds for front, 40 for second, 44 for third, and 48 for fourth lines.
[4]Top drafting roll weights 76 pounds for each line

firmed previous findings (19, 20, 21) that roll pressures of approximately 80 pounds yielded significantly more uniform sliver than did customary roll pressures.

*The second part* of this study shows the effect that draft, doublings, and drafting roll pressure at the drawing processes have on the properties of single yarn.

To study the effect of these variables on yarn properties, a weight of 65 grains per yard was arbitrarily selected for second drawing sliver, processed from 40 and 65 grain/yd card sliver. The control and experimental slivers, rovings, and yarns were processed in accordance with the processing organizations shown in Table VI.

It can be observed from Table VI that the control organization used for processing first and second drawing sliver was a typical one. Organizations A, B, and C used on the first process of drawing were found in the first part of the study to produce more uniform drawing sliver with respect to combinations of draft, doubling, drafting roll pressure, and settings.

It may be seen in Table VI that, for the second process of drawing, organizations A and B were the same as those used on the first process, while organization C differed from that used on the first process with respect to doubling and front and rear zone draft.

These slivers, rovings, and yarns were tested for quality characteristics and the results analyzed statistically to determine the significance of the differences between those products processed with the control and those products processed with experimental organizations A, B, and C. Graphs constructed to show the results of the tests with bars shaded to show the significance of improvements in quality attributed to the use of experimental organizations are shown in the figures.

The uniformity of first and sec-

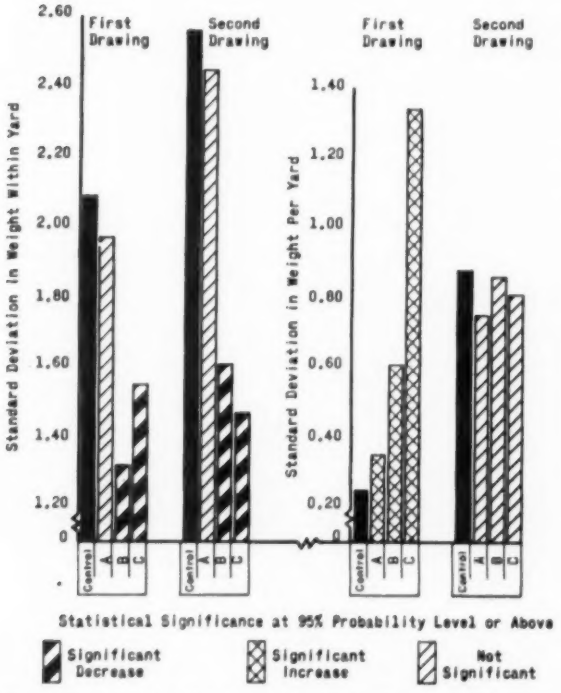


Fig. 3. Standard deviation in weight and significance of differences in standard deviation of sliver processed using a control and experimental organizations A, B, and C.

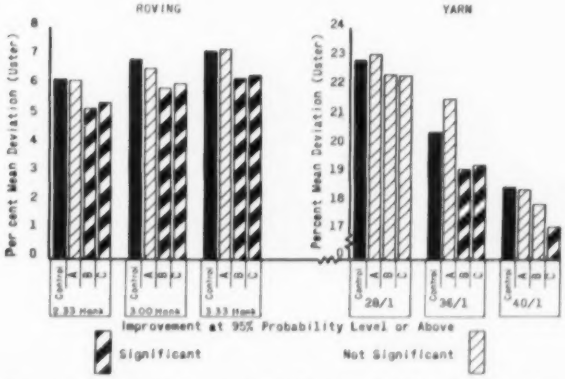


Fig. 4. Mean deviation and significance of differences in mean deviation of rovings and yarns using a control and experimental organizations A, B, and C.

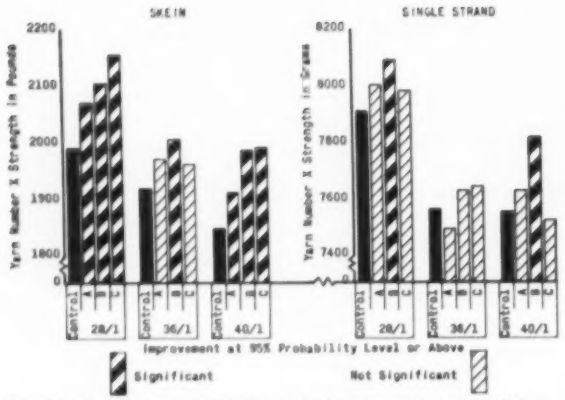


Fig. 5. Mean skein and single-strand strength and the significance of differences of mean strength of yarns processed using a control and experimental organizations A, B, and C.

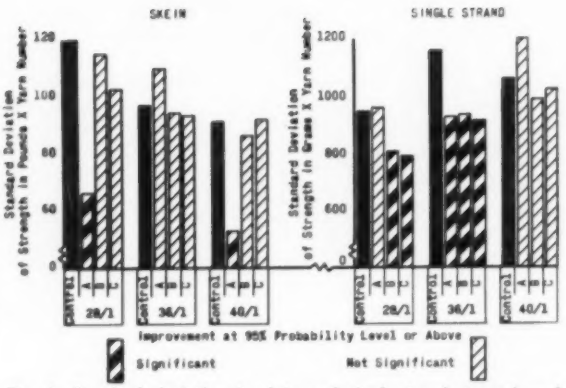


Fig. 6. Standard deviation in skein and single-strand strength and the significance of differences in standard deviation of yarns processed using a control and experimental organizations A, B, and C.

ond drawing sliver in terms of standard deviation in weight per yard and weight within the yard and the statistical significance of improvement in uniformity achieved with experimental organizations A, B, and C are shown in Figure 3.

*Figure 3* shows that standard deviations in the weight within the yard for experimental slivers B and C at first and second drawing are significantly lower than for the control slivers. Standard deviations for A were lower but the differences were not significant. The significant improvement in the uniformity in weight within the yard for slivers B and C is attributed to the effect of tension drafts shown in Table VI for organizations B and C.

Standard deviations in the weight per yard shown in Figure 3 for experimental slivers A, B, and C are significantly higher at the first drawing and slightly but not significantly lower at the second drawing than for the control slivers. While a significant increase in the variation in weight per yard for the three experimental slivers occurred at the first drawing, the increase was offset at the second drawing and the variation in weight per yard was not significantly different between second drawing slivers processed with the four organizations and drafts shown in Table VI.

The evenness of rovings and yarns in terms of mean deviation and the significance of improvement in evenness achieved with experimental organizations A, B, and C are shown in Figure 4.

The mean deviations shown in Figure 4 for the rovings indicate some improvement in evenness resulting from the experimental organizations for eight out of nine rovings and show a significant improvement in evenness for all rovings achieved with organizations B and C. The improvement in evenness of yarns is less significant than the improvement achieved for the roving. Although the mean deviations for the yarns indicate some improvement in evenness for seven out of nine experimental yarns, a significant improvement was achieved only for 36/1 yarn with organizations B and C and 40/1 yarn with organization C.

The mean strength of yarns was computed for skein strength as the product of breaking load in pounds multiplied by yarn number, and for single-strand strength as the product of the breaking load in grams multiplied by yarn number. The mean strength of yarns in terms of the product of breaking load times yarn number and the significance of improvement achieved with experimental organizations A, B, and C are shown in Figure 5.

It is shown in Figure 5 that the skein strength for seven of the nine experimental yarns is significantly higher, and apparently higher for two experimental yarns than for the control yarns. The significant improvement in single strand strength is less than the improvement achieved for skein strength. Although seven of the nine experimental yarns tested higher in single strand strength than the control yarns, only two of the seven — both from organization B — were significantly higher. (The fact that all but four out of all tests made by skein and single strand methods of test did show an increase for the experimental organizations and the majority of skein strength increases were significant, tends to indicate a real improvement was achieved in yarn strength with experimental organization A, B, and C.)

The uniformity of skein and single strand strength of the yarns in terms of standard deviation computed for the products of the breaking load in pounds or grams multiplied by yarn number and the significance of improvement achieved with experimental organizations A, B, and C are shown in Figure 6.

Although it is shown in Figure 6 that the uniformity of skein strength is better for seven of the nine experimental yarns than for the control yarns, only two — both from organization A — are significantly better. Greater improvement occurred for the single strand strength than for the skein strength. Better uniformity of single strand strength is shown for seven of the nine experimental yarns than for the control yarns

and significantly better for five of the yarns — one from organization A, two from B, and two from C. While more of the improvement in uniformity was significant for single strand strength than for skein strength, neither organization A, B, nor C appears to have consistently achieved improved uniformity of yarn strength.

*The graphs* in Figures 3, 4, 5, and 6 show an aggregate of sixty-six differences in quality characteristics between products processed using a control and those products processed using experimental organizations A, B, and C. Fifty-four of the sixty-six differences indicate some improvement in quality characteristics achieved with the experimental organizations A, B, and C, and twenty-nine of these differences are significant at the 95 per cent probability level. Five of the significant differences were achieved with organization A and twenty-four with organizations B and C.

The significant differences indicate the real effect of typical zone drafts and heavy drafting roll weight used for organization A and tension draft in the middle drafting zone for organizations B and C at the drawing process on the quality characteristics of sliver, roving, and yarn.

*Summary and Conclusions.* The first part of this report deals with the first or one process of drawing and the use of a tension draft in the middle drafting zone. Results are as follows: (a) the variation in weight within a yard of sliver increased while the variation in weight per yard decreased as the number of slivers fed and total draft was increased, (b) middle drafting zone rolls set closer together than customary with typical distributions of draft contributed to considerable improvement in uniformity in weight of the drawing sliver, (c) rear zone drafts of from 1.56 to 2.00 used with a total draft of 6.00 yielded the most uniform sliver, and (d) top drafting roll weights of 76 pounds on each line of rolls yielded more uniform drawing sliver in most cases than did the customary lighter weights.

Based on the significance of differences in quality shown at the various levels of processing in the second part of this work, it was concluded that: (a) the use of tension drafts in the middle drafting zone of the drawing process coupled with appropriate drafting roll settings and pressures contributed to a real improvement in the uniformity of sliver and roving and on yarn properties caused by roller drafting systems and (b) apparently the resultant improvement in yarn quality was of a lesser degree than the improvement obtained in the uniformity of sliver and roving.


#### Acknowledgment

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#### Editor's Note

Readers interested in this subject may also find some helpful information in the following articles:

a. Heavner, James M., "This Study of Picking and Carding Revealed Causes of Yarn Size Variation," TEXTILE INDUSTRIES **120**, 108-113 (Aug. 1956).

b. Beckner, Ernest R., "Tracing Defects with the Uster Evenness Tester," TEXTILE INDUSTRIES **121**, 139-141 (Feb. 1957).

c. Pharr, R. H., "Decrease Variation at Drawing," TEXTILE INDUSTRIES **115**, 145, 147, 149 (Oct. 1951).

## 1957 per capita fiber consumption off 1.3 pounds

■ DURING the first half of 1957 civilian per capita use of cotton, wool, and man-made fibers was at an annual rate of 33.4 pounds, a decline of 1.3 pounds from the 34.7 pounds consumed during 1956, according to information published by Textile Economics Bureau, Inc. The projected 1957 total includes 21.1 pounds of cotton, 9.4 pounds of man-made fibers, and 2.9 pounds of wool.

The annual rate of cotton per capita consumption this year at 21.1 pounds is 1.5 pounds or 65 per cent below the actual 1956 usage and 2.1 pounds or 9 per cent below the 1955 level, the Bureau reported.

The annual rate of man-made fiber consumption is 0.3 pounds or 3.5 per cent above the 9.1 pounds consumed last year.

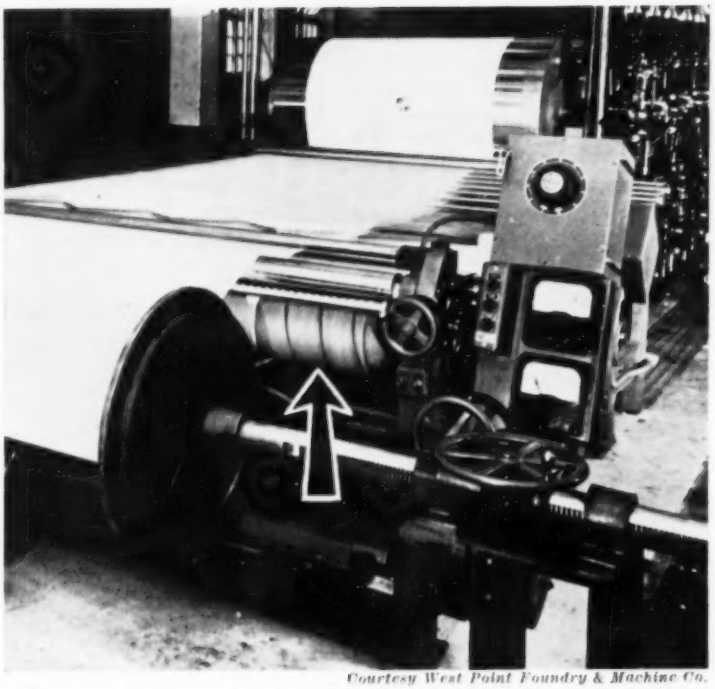
On the same basis, the current annual rate of wool consumption at 2.9 pounds is slightly below 1956 but coincides with the 1955 level.

# WARP SIZING

*Article 19*—Discussion of slasher drag rolls, drives, press rolls, warp lubricators, static eliminators, and beam storage racks*

By Paul V. Seydel, D.Sc.
*Seydel-Woolley & Co.*

Exclusive



*Courtesy West Point Foundry & Machine Co.*

**A composition-wound drag roll (arrow) is utilized on this slasher.**

**The Drag Roll.** The drag roll (also known as the delivery roll) is a very important part of the slasher. It controls the tension, which in turn controls the stretch and residual elasticity. It is placed between the loom beam and the rest of the slasher to make certain that the tension on the wet yarns is constant, for as we have seen, if the yarn is stretched while wet, and dried under tension, the stretch is set, and there is less residual elasticity which is so necessary for good weaving.

The drag roll assembly consists of the drag roll proper, and two smaller calender rolls, situated near the top center of the drag roll. The warp yarns come over the top of the first calender roll, around it, and pass between it and the drag roll. They then follow the drag roll around to the nip of the second calender roll, pass over it, and from there to the loom beam. Both of the smaller rolls are so mounted that the tension of the yarns pulls them against the drag roll. In this manner, the greater the tension, the more tightly they are held against the drag roll, and the less chance there is for slippage.

The drag roll itself is generally made slightly smaller in diameter than the metal rolls of the size box. This allows a cushion to be built up on this roll by winding it with cloth, giving a friction surface for easier pulling of the yarns, plus protecting the yarns at the nip of the calender and drag rolls.

There should be just enough cloth wrapped around the drag roll to give enough tension to prevent rolling of the yarns, slipping of the yarn sheet on the cylinders, and to prevent the yarn from kinking at the split rods and breaking out. The tension should be at least enough so that the yarns split three or four inches behind the "busting" rod.

Whenever possible, gears should be changed rather than adding cloth to the drag roll. With too much cloth, the roll will have too much cushion.

With the type of constant tension devices used on the multi-motor drive, it is not necessary to use cloth covering to adjust to the proper tension, as is required on gear-train-driven rolls. This allows the use of either synthetic rubber-covered or cork-composition covered rolls.

For the cork rolls, an ordinary steel roll is spirally wound with a strip of cork composition. This installation must be carefully done, and the cork treated with care, otherwise it will tear up easily and have too short a life. Care must be taken in cutting laps on the cork roll, as the cork can be damaged easily.

The smooth surface of the cork or the synthetic-covered roll will give generally better operation than the old cloth-wrapped rolls, and if properly installed should not require as much maintenance. The synthetic rolls are tougher, less easily damaged than the cork, and have usually been found to last longer. On the other hand, the cork winding is a great deal less expensive. One merely has to decide whether the extra cost is worth it.

The synthetic rolls may be covered with a single factory-mounted

*Conclusion of discussion of the slasher room and its equipment which began in the June issue. The first article of this series, which deals with all phases of the warp sizing operation for cotton yarns and yarns produced from man-made fibers, appeared in the May, 1956, issue of this magazine. Reprinting of the entire series in book form is planned.

piece of synthetic, or they may be spiral-wound with a long strip of rubber or synthetic rubber, as is the cork roll. With these rubber-covered rolls there may be some difficulty with static, particularly if the yarns are over-dried.

Both the cork and the synthetic covering have good recovery after being dented by passage of pieces of tangled yarn or foreign matter between the drag roll and the calender roll. This is particularly advantageous if laps occur on the drag roll with any frequency, as the cork and synthetic rolls recover their shape as soon as the lap is removed, while the cloth wound rolls are often left with a more or less deep groove, which will level off slowly if at all.

**Loom Beam Drives.** As the yarn is wound on the loom beam, its effective diameter is continually increasing. There is therefore a corresponding increase in the amount of yarn wound on this beam with each turn of the beam. Since the yarn passing over all the rolls and cylinders of the slasher passes at the same rate per turn of roll or cylinder, it is obvious that the loom beam cannot be directly driven in conjunction with the rest of the slasher.

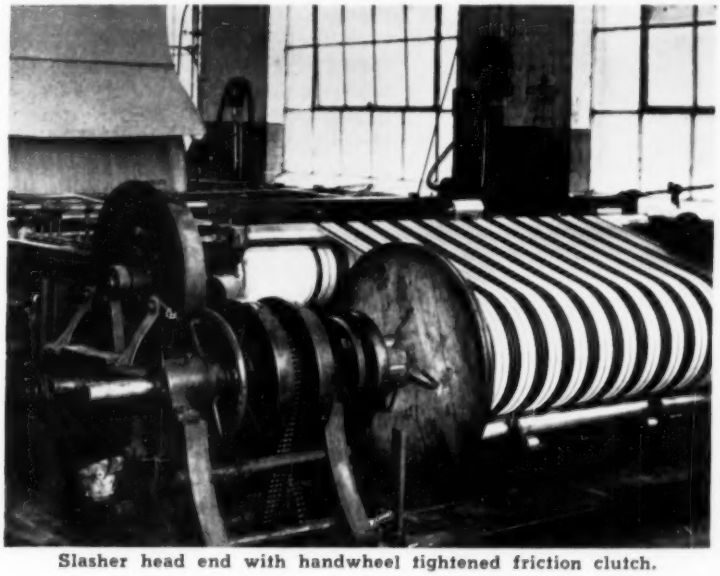
There are two ways to take care of this. One is to have an independent drive which does not turn at a certain rate of speed, but pulls the yarn onto the loom beam against a certain tension. This is accomplished with the multi-motor drives or the hydraulic drives described a little farther on.

The other method is to drive from the rest of the slasher driving mechanism, but through some device which allows some slippage. This may be accomplished with either a friction clutch or a hydraulic drive.

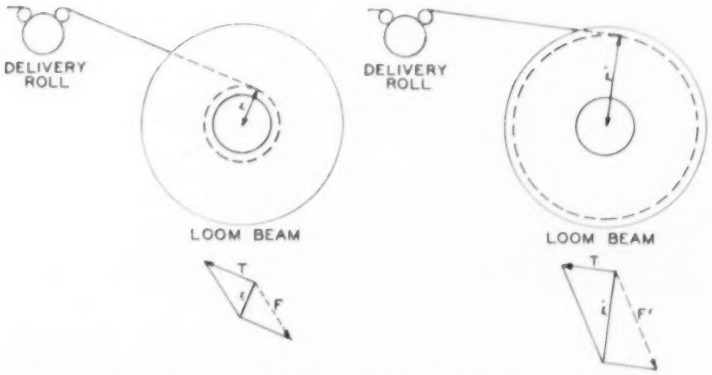
The friction clutch is a pair of friction plates held against each other. One plate is driven by the slasher drive, from the cone pulley, and being pressed against the other plate, drives the second plate. The second plate in turn drives a hollow shaft into which one end of the loom beam is placed. A driving dog fastened onto this shaft is set with its projection against one of the ribs on the head of the loom beam, thus turning the loom beam with the shaft.

All of the slippage is between the two plates of the clutch. At the beginning of the winding, the percentage of slippage is comparatively small, usually around 20 - 30%, while at the end, when the beam is practically full, the slippage is several hundred per cent. The amount is proportional to the increase in the beam diameter.

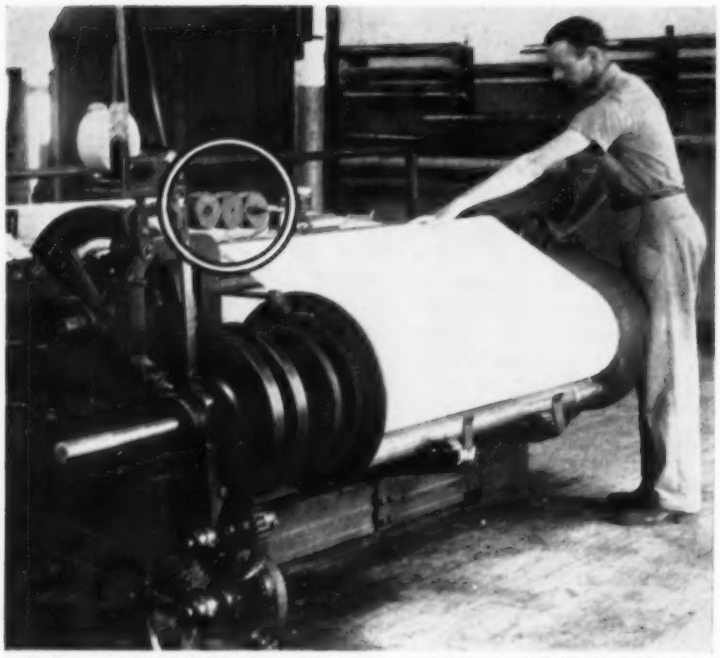
Note also that as the beam diameter increases during winding on of the yarn, the pull of the yarn is being exerted farther and farther from the axis of the beam. This in effect means that a much greater force must be exerted to turn the beam, if it is desired to maintain the tension constant on the warp, because the effect of increasing the diameter is similar to the effect of lengthening a lever. One may notice this in using a screw driver—if you try to turn the screw with the shank of the screw driver, much more effort is



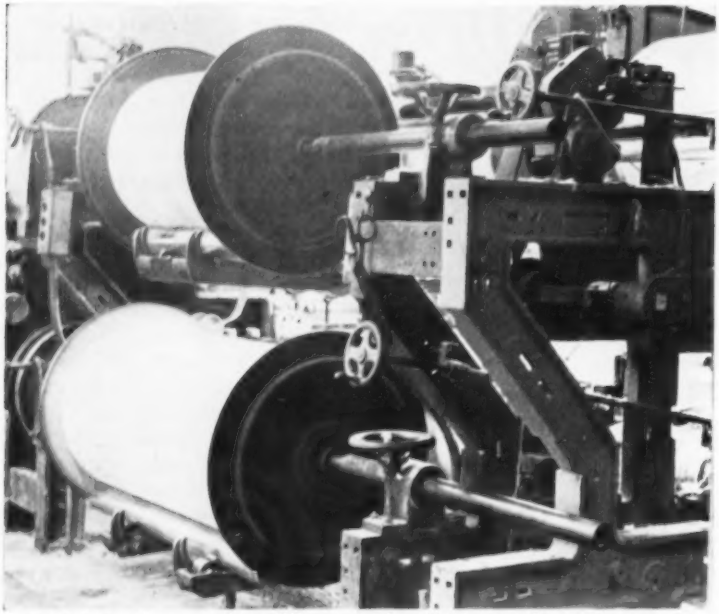
**Slasher head end with handwheel tightened friction clutch.**




**The force required to wind the loom beam, keeping a constant tension on the yarn, increases as the diameter of the wound beam increases (a lever effect). Taking T as the constant tension in both cases, the force F' required to balance T at the larger radius r' is much greater than the force F required at the smaller radius r. This force is transmitted as a torque from the driven face of the friction clutch or the axle of a multi-motor drive. As the force requirement is increased, it is maintained at the desired level by tightening the clutch to increase the friction; or with a motor drive, by electrically increasing the torque.**



**A lever-weighted friction clutch (see weights in circle) is utilized on this slasher head end.**



**Double head on slasher. When running light sets, two sets may be sized at once, separated at the guide roll in front of the leasing section, and wound on separate loom beams.**

required than if you turn with the larger diameter handle. The effort in this case is related to the tension on the yarns.

To maintain the tension constant, it is necessary to increase the pressure between the plates. Adjustment is made either with a weighted lever, by moving the weight farther along the lever as the beam diameter increases; or by the use of a handwheel, which must be adjusted from time to time by the slasher operator.

The weight on the lever may be tied into the press roll in such a manner that as the press roll is forced out by the increase in the beam diameter, its motion is transferred through a link or chain to the weight, pulling the weight automatically farther out along the lever.

The weighted lever is satisfactory for light sets, but for very heavy sets and with coarse yarns, more tension is required than is practical to transmit through this type of device. For this reason, slashers equipped to operate heavy constructions usually have a handwheel device for adjusting the pressure between the friction plates.

In the case of slashers equipped to run larger beams, such as the 28″ to 36″ beams, it can be seen that the amount of slippage as the beam filled up would become very large, greatly increasing the work load on the friction clutch. To cut down on the wear which results from this friction, a device has been developed which reduces the slippage needed.

This device is a double system of clutch plates, one of which is driven at half the speed of the other. When the loom beam is about half full, the handwheel which applies the pressure to the first clutch is turned in the opposite direction from that required for tightening. This disengages the first set of clutch plates and engages the second set, which is moving at half the speed of the first, thus cutting down on the slippage and reducing the amount of work needed to turn the loom beam at the desired tension.

**Hydraulic Drives.** One method of eliminating the disadvantages of the friction plate clutch is through the use of a hydraulic drive. There are several modifications of this, none of which, incidentally, is similar to the "hydraulic drive" which replaces the friction clutch on the modern automobile. This latter is a type of hydraulic clutch, while the hydraulic drive for winding loom

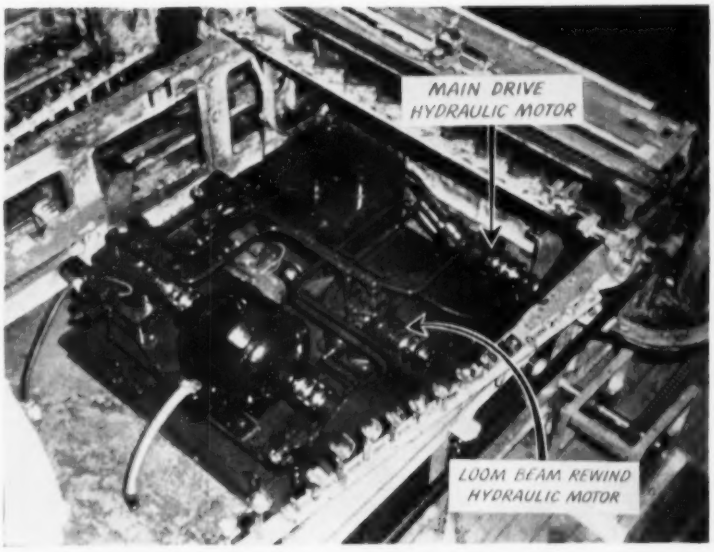
beams is essentially a turbine or a motor operated by oil flow.

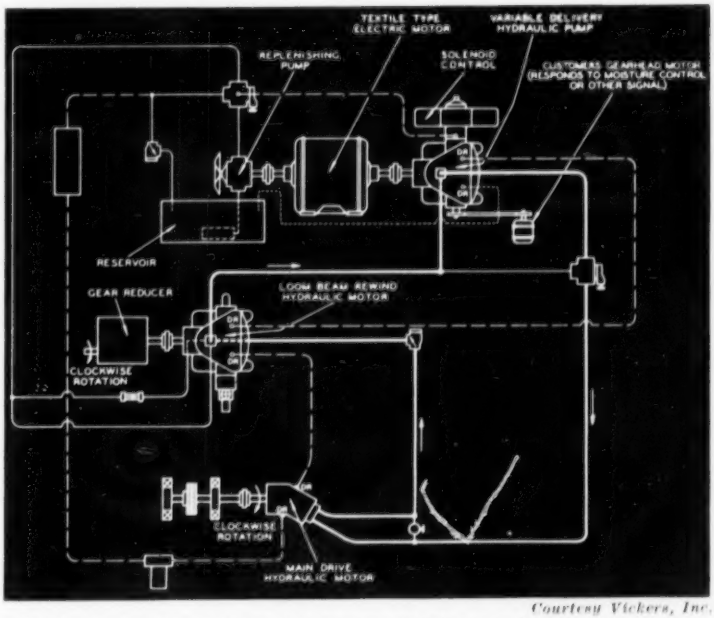
The principle of the turbine, in essence, is similar to the old mill wheel, in which a stream of water hits the paddles of the wheel and pushes it around. The turbine is the same thing on a smaller scale and with a controlled flow so that there is a minimum of waste in the force of the stream flow. Oil pressure, built up by a pumping mechanism, replaces the force of gravity which operated the old mill wheel.

Two other types of hydraulic motors are the piston motors and the gear motors. These operate essentially in the same manner as a piston pump or a gear pump in reverse—that is, the flow of the liquid, moving in the reverse direction from that in which it would move if the machine were being used as a pump, forces the pistons or the gears to move, and thus turns the shaft, in effect transforming the pressure of the oil into a torque for turning the loom beam.

The oil pressure and flow are controlled by a pump whose displacement can be controlled by the tension of the yarns between the drag roll and the loom beam. Changing the displacement of the pump changes the rate of flow of the oil, and thus the speed at which the drive motor turns. The slight slippage present in any hydraulic system and the compressibility of the fluid being used give a smooth operation.

The tension may be varied by controlling the oil pressure, and it is claimed that constant tension may be held through beam build-up ratios of as much as seven to one. Since the tension is dependent on pressure built up by the oil pump, and this is controllable by variation of the displacement, the drive may operate effectively at any speed. Keeping the pump running at a minimum displacement while the slasher is stopped will keep the pressure built up and maintain tension on the loom beam until the tension is intentionally released.




*Courtesy Vickers, Inc.*

**Hydraulic slasher drive utilizing an oil-driven hydraulic motor for regulating loom beam tension.**

**Multi-Motor Drives.** One innovation in the slashing field which has proved its advantages is the all-electric multi-motor slasher drive. Here the question of whether or not to use is principally one of whether or not it is worth the comparatively high cost in the operation in question.

The principal feature of the multi-motor drive is the elimination of the friction clutch on the loom beam, and the winding of this beam at constant tension by an electrically controlled variable speed motor. This eliminates the human element in controlling tension on the loom beam, and gives a package of even density from the start to the finish of winding, with no soft spots.

Even where complex mechanical means are used to control the friction clutch to give even tension, this slipping clutch operates badly at slow speeds, and has a tendency to grab and chatter, which is not present with electric controls.

The manufacturers claim also that the even control of tension enables them to wind from 5 to

20% more yarn on a beam. The advantages of a uniform beam to the weaver are obvious.

The beam motor is normally operated in conjunction with a variable speed gear motor which drives the delivery roll, as it is otherwise difficult so to control the system that the maximum benefit is derived from the beam motor.

Direct current is furnished for both motors from a motor-generator set. The speed of the motors is controlled by using a generator whose output voltage is controlled by variation of the generator field strength. As the voltage is lowered, the speed of the direct current motors decreases. Use is made of this to obtain automatic control through moisture meters, as well as to obtain hand-operated speed control, or change from running to creep speeds.

In order to compensate for the variation in beam speed required as the package builds up, the beam motor must also vary in speed while the rest of the slasher runs at constant speed. For a constant tension pull, a constant horsepower input from motor to beam is required. The motor will maintain this if the input current (over that required to maintain motor resistance and friction losses) remains constant.

This current is controlled by a regulator which is driven at constant speed as part of the motor-generator set. Current to the beam motor therefore remains constant, regardless of the variations in voltage from the generator which are required to vary the operating speed of the slasher.

Since the electric motors have very little friction in their bearings, the pull of the yarn might cause the motors to back up when the current is off, leaving a slack sheet, which would result in rolling and tangling. Therefore, the current is never completely off on stopping, but only cut back to a value just below that which would cause the machine to run, and the warp to creep forward.

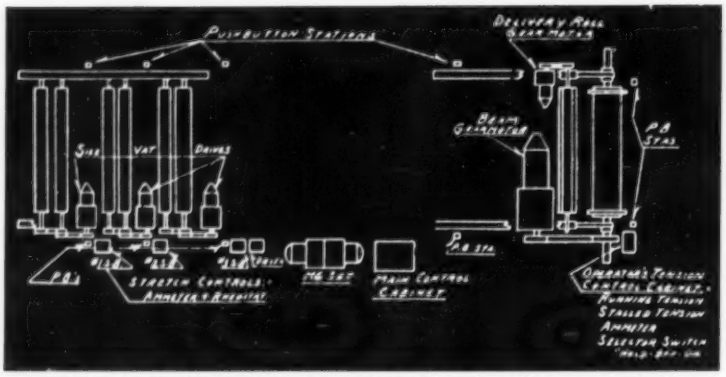
In addition, on doffing, the beam motor is cut out, so that the tension between delivery roll and beam is relieved.

The rest of the slasher may be geared to the delivery roll, in which case tensions and relative speeds are controlled by proper selection of gears and the use of the proper amount of cloth on the delivery roll, as usual. Or, the size rolls may be driven by separate motors from the same generator which drives the delivery roll motor, so that variation in speed of the latter will give corresponding variation in the former.

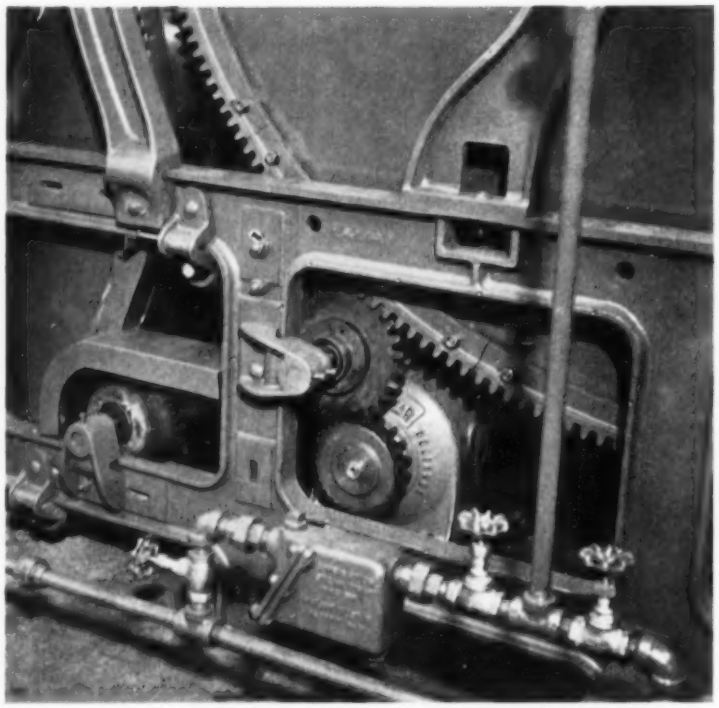
In addition, a vernier rheostat control on the size roll motor allows its relative speed to be changed so that a given tension may be maintained between the front and back of the slasher.

When operating in this way, it is not necessary to use a cloth-covered delivery roll for exact tension control, and the delivery roll may be covered with cork or with synthetic rubber, giving a smoother surface, which has more traction and when properly installed should have less upkeep.

The same type of motor may also be used to drive the cylinders, but

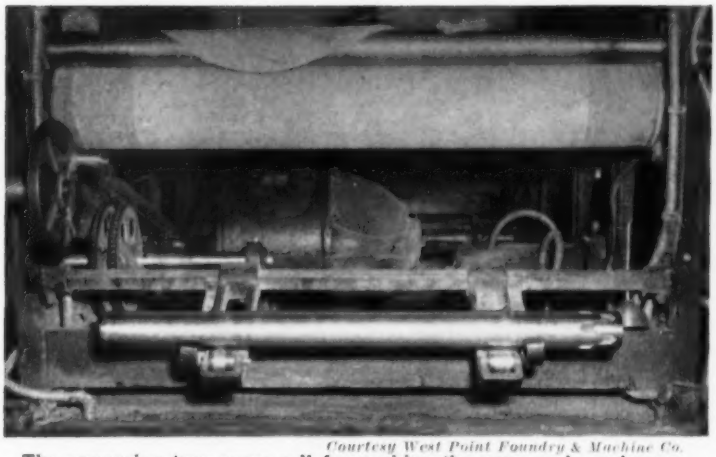



**Sketch of Westinghouse multi-motor drive installed on a slasher equipped with an air dryer.**

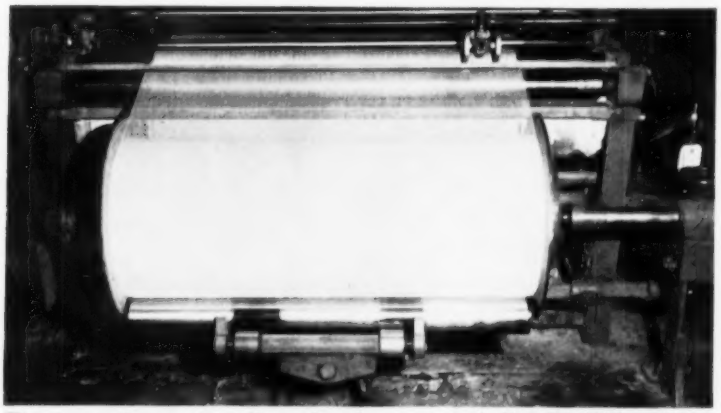


*Courtesy West Point Foundry & Machine Co.*

**Drive mechanism for positively driven large cylinders. This slasher utilizes a multi-motor drive.**



*Courtesy West Point Foundry & Machine Co.*
**The expansion type press roll for packing the yarn on loom beams.**



**The traversing press roll equipped with leather disks to protect selvages.**

it has generally been found more practical to put good low-friction bearings on these and allow them to be yarn-driven.

These motors are normally furnished as the totally-enclosed, nonventilated type, to prevent troubles from getting lint or size inside the motors.

**Press Roll.** The press roll is a free-running roll supported on two pairs of small rollers, used to pack the yarn tightly and evenly on the loom beam. The ends must be kept smooth to prevent catching and tearing the yarns. One good type of roll is the so-called "expansion roll," which is built of two parts. It has an inner spring that keeps the ends of the rolls pressed against the beam heads The two sections have teeth at the joint, thus giving the effect of a continuous roll.

This roll is equipped with a small locking mechanism, so that when the two ends are pushed together a spring pushes a small latch into place and holds them together. At the same time, part of the latch protrudes above the roll surface. On starting up the slasher again with the roll in place, the barrel of the loom beam presses this protrusion into the roll, releasing the latch, and allowing the roll to expand against the beam heads.

The rollers (on which the press roll rides) should be equipped with a mechanism for giving them a lateral reciprocating motion, so that grooves will not be worn in the press roll. Some slasher operators like to protect the ends of the press roll and the beam heads by disks cut from heavy leather, of the same diameter as the roll, fastened on the end of the press roll.

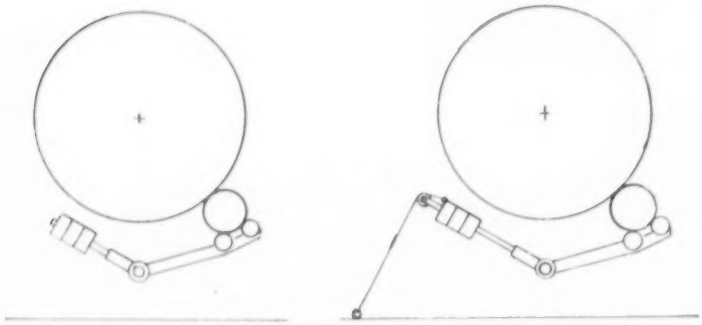
Some operators do not like the expansion roll because it wears the paint off the beam heads. They prefer a simple roll not quite the length of the beam, equipped with a traversing motion, so that it moves slowly back and forth from one selvage to the other and does not press against both heads all the time.

This type of roll has several disadvantages. The traversing mechanism sometimes gets out of order, it takes up more space, and the roll is not long enough for the selvages. The selvages are not packed as uniformly as they are with the expansion roll. Choice of rolls, as with many other items, is a matter of personal preference.

The slasher tender should be careful not to try to get a hard beam by increasing the friction on the beam drive. There should be just sufficient friction to wind the yarn properly, so as to protect the elasticity of the yarn, and the beam should be packed by the action of the press roll alone. Even this action should be controlled, for a beam too tightly packed loses a great deal of the cushioning effect which helps the warp stand the strain of the beating up of the reed.

In order to start off beams without excess weight on the press roll, some mills have a system where the weight on the press roll is increased as the beam is filled. This is done by an arrangement which automatically slides the weight toward the end of the press roll lever. A rope or chain is fastened to the sliding weight and is carried over a pulley on the end of the lever. It is secured to the floor so that when the roll is depressed, and the lever is raised, the weight is moved by the rope toward the end of the lever. Several modifications of an adjustable weight have

**The beam must not be so soft that the warp ends will sink into the loom beam, or so hard that the elasticity of the yarn is reduced. If the loom beam is filled so that when the knuckles are pressed into it as the beam is turning, it gives slightly, then it is wound just about right. The careful slasher tender not only feels the warp for dampness, but constantly tests the density of the beam, as this one is doing.**



**Weighting mechanisms for press roll: Left, ordinary weighted lever; weights may be added or removed as desired. Right, self-adjusting roll. As the beam diameter builds up, the rope, which is tied to an eyelet in the floor, pulls the weights farther out on the lever and increases pressure against the warp.**

been described previously.

Some mills have adopted the use of a hydraulic or pneumatic pressure system to hold the press roll against the yarn, in order to get more yarn on the beams, thus saving time in beam handling and in the loading of beams.

Such a pneumatic system is incorporated into a new style slasher head end which also features traversing head- and tail-stocks for holding the loom beam. The long hollow pipes usually used are thus eliminated, and a more positive holding of the loom beam shaft is obtained, with correspondingly less wobble. On this head-end assembly, a split bearing is used which also speeds up doffing and replacing of the loom beam, as well as making it unnecessary to adjust the tailstock.

As both head- and tail-stocks traverse, the warp can be kept centered on the slasher.

Regardless of the type of roll used, it is good practice to fit the ends of the rolls with a leather or plastic disk or plug. This protects the ends of the rolls from becoming burred, and thus protects the selvage yarns.

**The "Flying Doff."** For those mill men interested in non-stop operation of slashers, a gadget has been designed for use on the beam-winding section which allows non-stop operation. This piece of equipment, called the "Flying Doff," is so constructed that an empty loom beam may be placed in position while the slasher is running, filling the previous beam.

The full beam is automatically cut off and the cut ends started around the new beam without even slowing the slasher. The full beam may be removed when convenient and replaced by an empty; the positions of the two beams are then reversed and the machine is ready for another automatic change with no slowing of the slasher at any time.

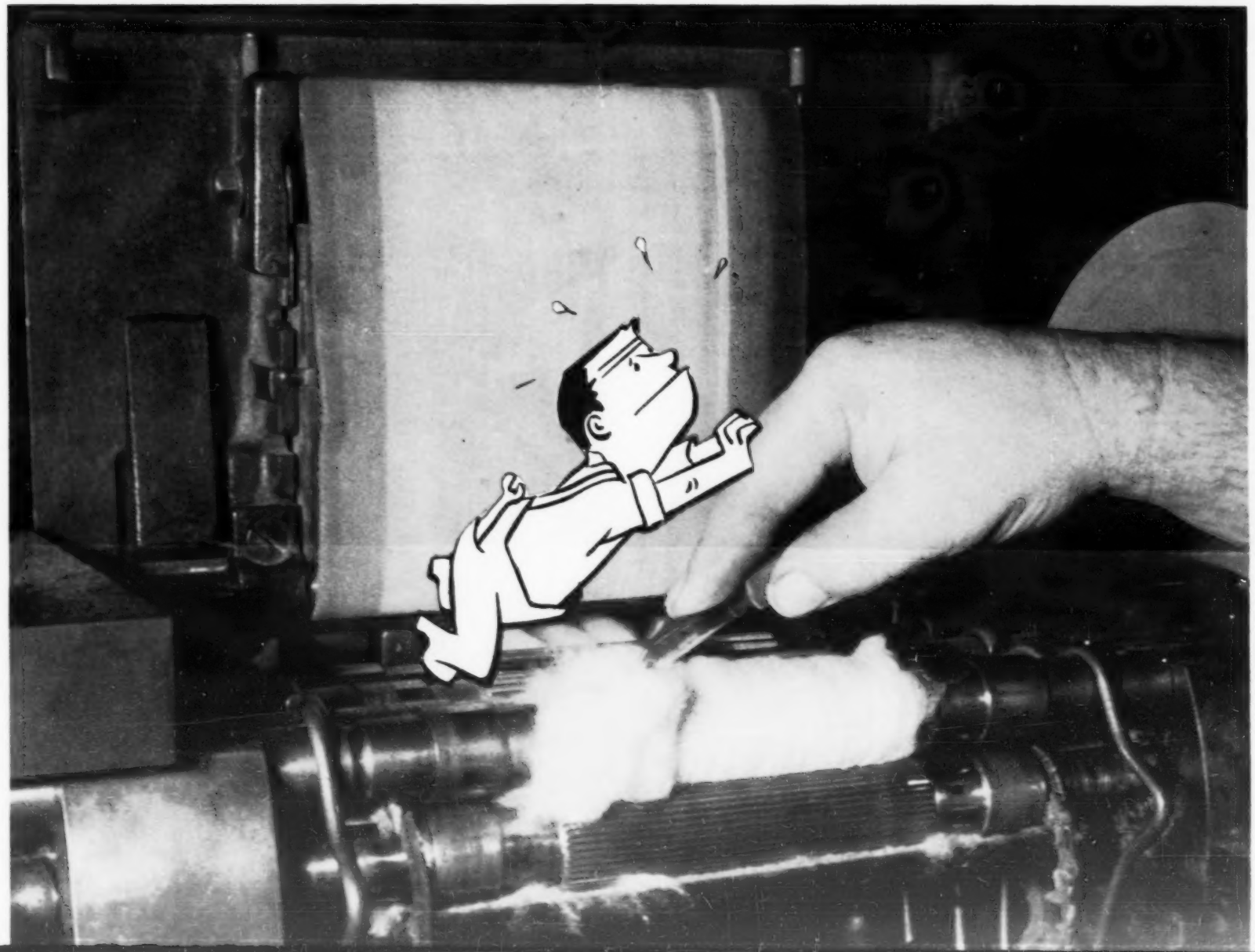
Such a device is definitely desirable for the few operations which are dyeing yarns and slashing in a single operation, since every stop the machine must make interferes with obtaining uniform dyeing. It will also prevent streaks of size across the warp, which are obtained when the machine is stopped for more than a brief period, and will prevent overdrying of the size film which is exposed to the cylinders during a halt. Of course, it also saves a little time, but this amount of time is relatively small compared to the investment in the equipment.

**Selvage Devices.** In the device for running selvage threads outside the section beams, proper tension can be maintained if the threads are run from spools on a creel fastened to the slasher hood. On these spools light friction can be exerted. The threads pass from the spool down under a smooth rod, then under the finishing roll without going through the size. Weighted disks, such as those used

*(Continued on page 143)*

*Tear along this line to post in card room*

# PICK LAPS OFF ROLLS
# Knives roughen them



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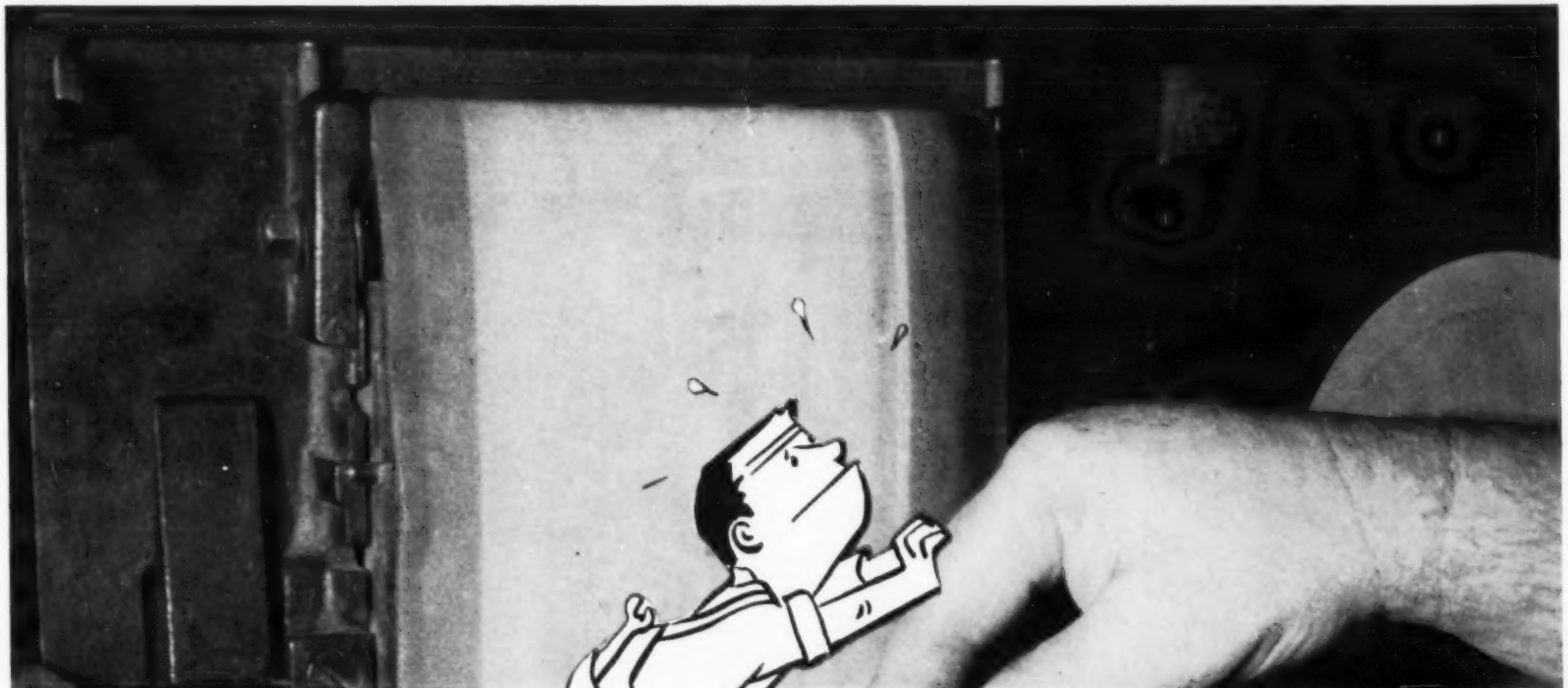
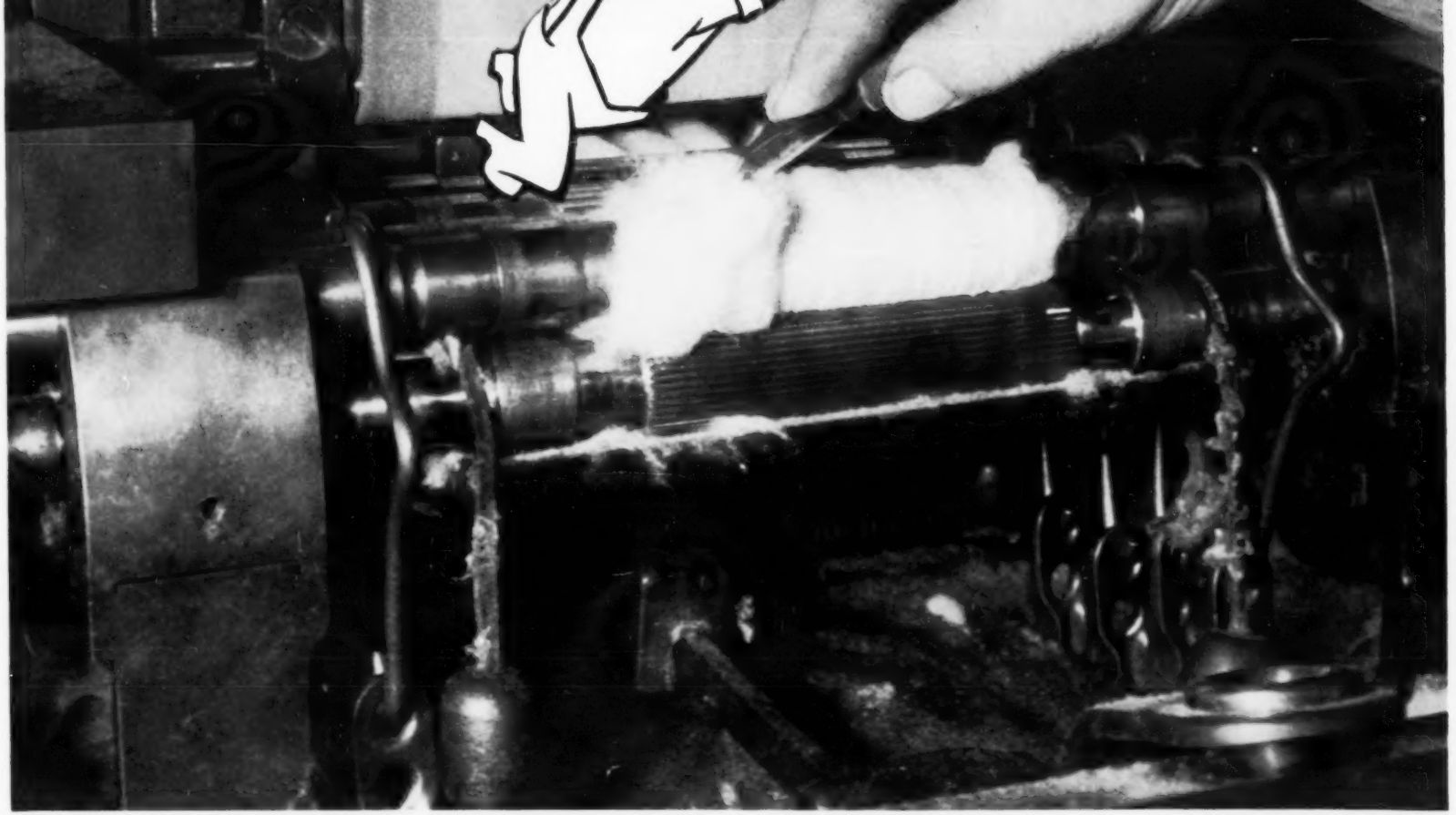
# PICK LAPS OFF ROLLS
# Knives roughen them



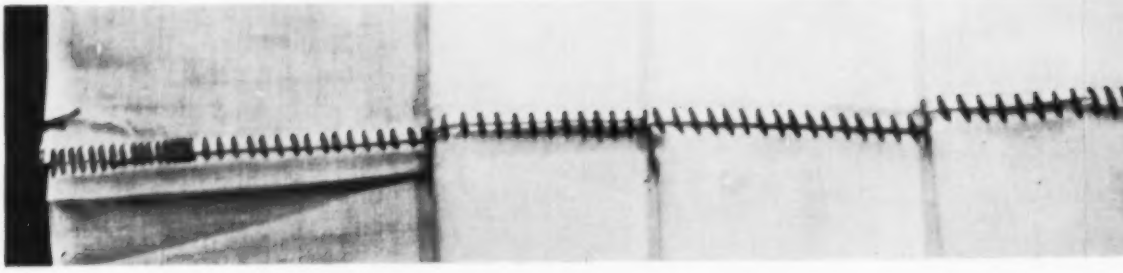


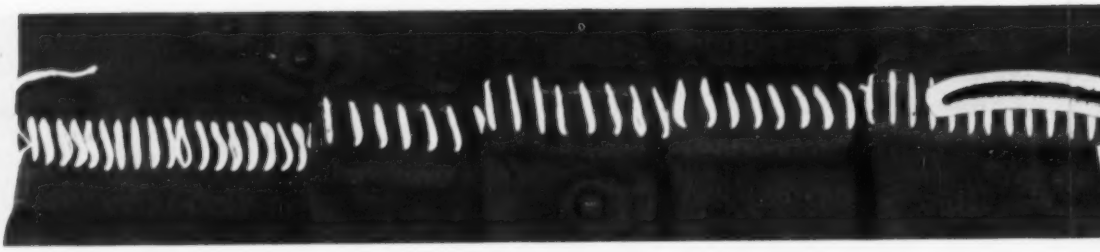
Textile Industries
9

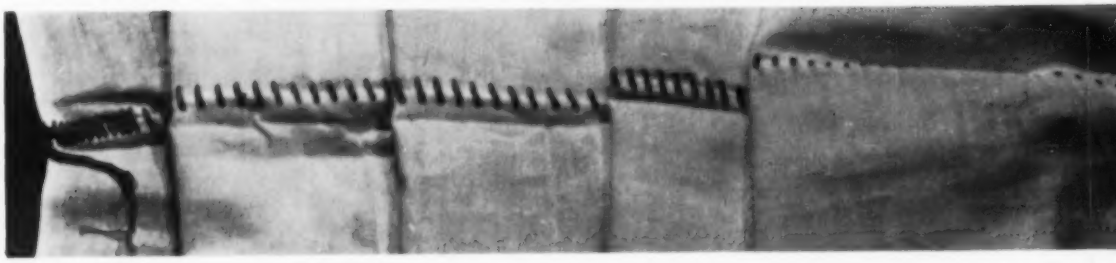
# **Textile Industries** POSTER SERVICE

*This is one of a series of manufacturing hints and employee reminders in poster form, designed for placing on mill bulletin boards. Reprints are available. Write to the Editors, "Textile Industries," 806 Peachtree St., N. E., Atlanta 8, Ga.*

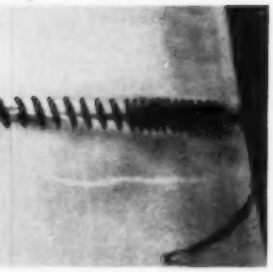
# Let's sew those sea





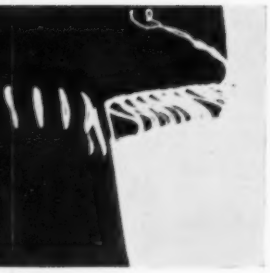


# ams the right way!



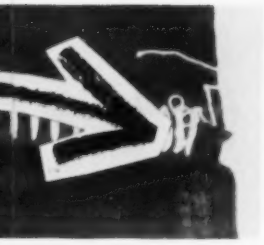
## GOOD SEAM

Cloth was torn straight across the filling, and the ends were even at the start. It is properly reinforced and even at each end. It will cause no seconds.



## BAD SEAM

The ends are uneven, tucks are sewed into the seam, and seam is not properly reinforced. It will cause seconds.



## BAD SEAM

It will cause double edges. Notice that the threads are cut too short.

## BAD SEAM

It was begun with uneven ends, and it is not properly reinforced.

---

**tile Industries** POSTER SERVICE

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*Tear along this line to post in wet processing plant*

# ams the right way!

## GOOD SEAM

Cloth was torn straight across the filling, and the ends were even at the start. It is properly reinforced and even at each end. It will cause no seconds.

## BAD SEAM

The ends are uneven, tucks are sewed into the seam, and seam is not properly reinforced. It will cause seconds.

## BAD SEAM

It will cause double edges. Notice that the threads are cut too short.

## BAD SEAM

It was begun with uneven ends, and it is not properly reinforced.

---

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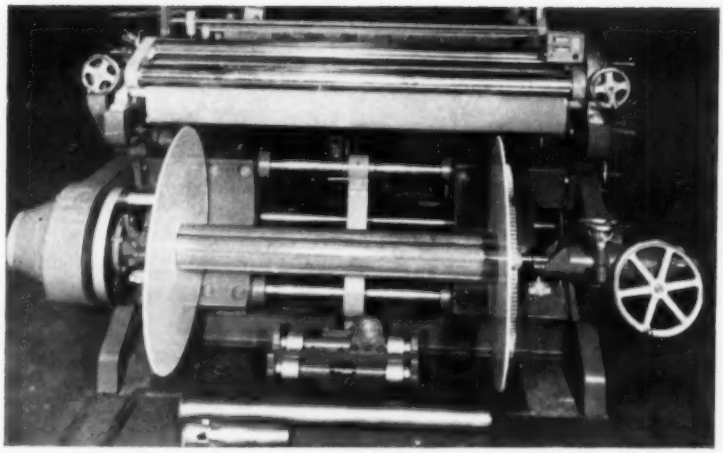
*Tear along this line to post in wet processing plant*



*Courtesy West Point Foundry & Machine Co.*

**With this slasher head end, the press roll is held against the yarn being wound onto the loom beam by a pneumatic pressure system.**

**For selvage creels, tension may be controlled by using a simple winder tension device.**

*(Continued from page 142)*

for tension devices on a warper, may also be used to maintain uniform tension.

When the selvage is run in the body of the warp with the section beams, the selvage should be separated and guided to the edge of the cylinder where it will be assured of sufficient drying surface to dry thoroughly.

In extreme cases the selvage yarn can be made to turn twice over one of the drying cylinders. If desired, the selvages may be run under the finishing roll alone. Plied selvages should never be run under both rolls, because the slasher (set to dry single yarns) is running too fast to dry plied yarns if they pick up much size—and mildewed selvages may result.

With two-ply selvages, it is generally preferable not to try to size the selvage yarns, but simply to run the yarns through eyes attached to the slasher hood, then to the cylinders to join the main yarn sheet.

**Warp Lubricators.** On the theory that the most effective way to apply a lubricant to a warp yarn is to put it on the outer surface of the yarn after the size has been applied, several varieties of apparatus have been developed for this purpose. They may be divided basically into two types, one which applies the lubricant before the yarn is dried, and the other applying it afterward.

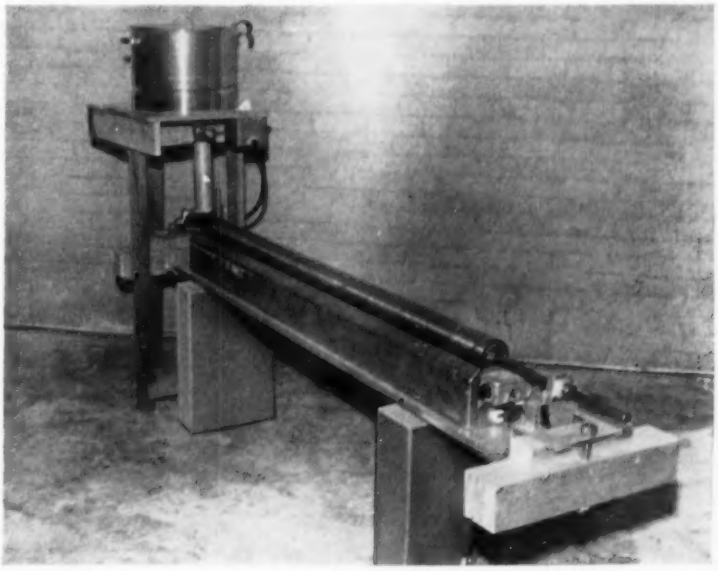
The units for applying the lubricant to the yarns consist essentially of a stainless steel roll turning in contact with the bottom of the warp sheet. The roll is partially immersed in the lubricant, which is held in a stainless steel trough.

Control of the amount of lubricant added to the warp is obtained by varying the rate of turning of the roll. As the roll turns, it picks up lubricant from the trough, and the lubricant is wiped off the roll by the yarns passing over it. The more rapidly the roll turns, the larger the amount of lubricant which is picked up and presented to the warp. If the lubricant did not drain back into the trough, the amount transferred would be exactly proportional to the revolutions per minute of the roll. However, as the material drains slowly off the roll back into the trough, on slowing the roll to half speed, a little less than half the amount will be applied.

The roll is driven from one of the slasher drive shafts. Its speed may be controlled in a number of ways: if a gear drive is used, the size of the gears may be changed; if a pulley is used, the size of the pulley may be changed, or a step pulley used. Some of the devices are equipped with variable-speed

**The warp lubricator adds lubricant to the yarn after the size has been applied.**

*Courtesy Roydel Woolley & Co*



transmissions. Of these transmissions, the type used should give smooth continuous forward motions. One type of transmission has been tried which gives an uneven motion, resulting in uneven application of the lubricant. In extreme cases, this shows as bars across the warp.

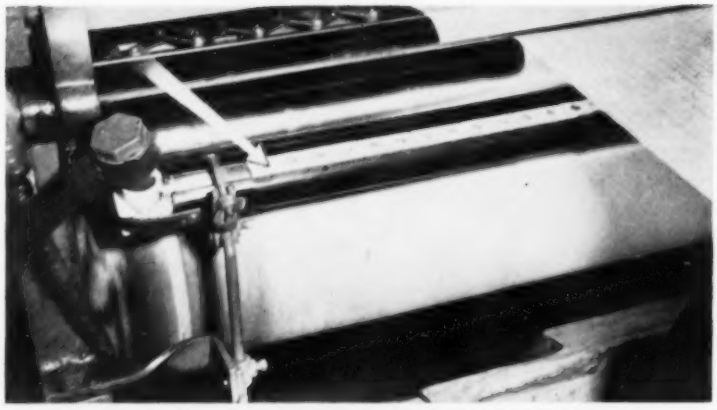
Since the roll is driven from the slasher drive, it will slow down and speed up with the slasher speed, so that the application of lubricant will be fairly constant, even on slashers equipped with variable-speed moisture controls.

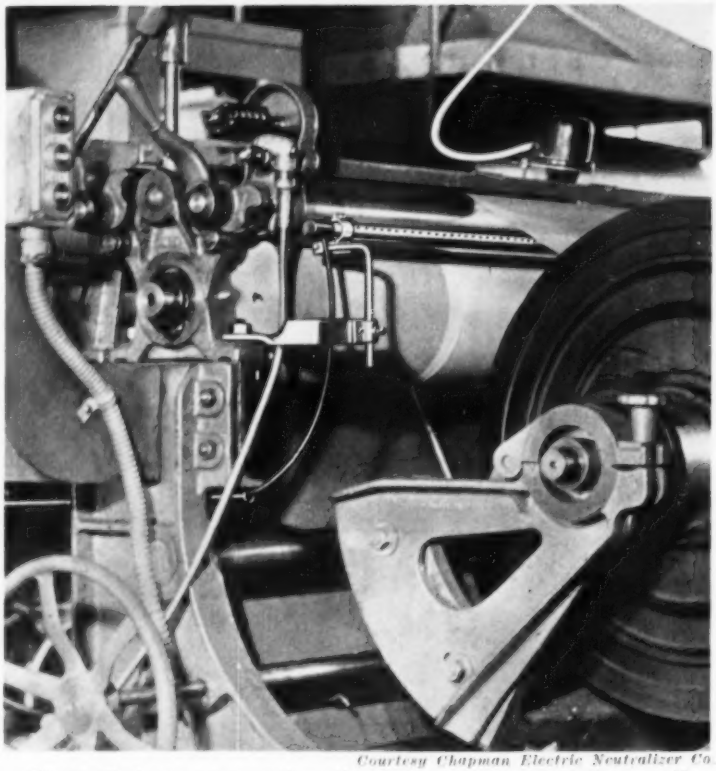
The lubricant may be applied either in the form of a water emulsion, as an oil, or as a melted wax. In the case of the water emulsion, one must take care that the properties of the emulsion used are such as to wet the stainless steel roll, otherwise the emulsion will gather in splotches on the roll and there will be wet and dry spots, giving uneven application. Furthermore, the emulsion must be perfectly stable on storage so as not to have separation or creaming of the lubricant.

Rolls using melted waxes are equipped with small steam coils, with steam jackets, or with strip heaters. In using these, the temperature should be closely controlled, as some waxes vary in viscosity an appreciable amount with variation in temperature. A more viscous material will not drain off the roll as rapidly while turning, and will thus apply more material on the warp than a free-flowing material.

When an emulsion is used, the level of the emulsion in the trough may be kept constant by continual feeding with a small pump driven from the slasher drive, using an overflow pipe in the trough to return the excess to the container. Or it may be fed to the trough from a large inverted jar, operating on the principle of a chicken fountain. Troughs using wax are fed from auxiliary melting pots, and levels are generally controlled by overflow pipes.

Modifications of this method of applying lubricant have been tried, although without enough success to justify general use. Among others, lubricant has been applied by a spray system to the warp, and by a felt wick which picks up oil from a split pipe and transfers it to the yarns.





*Courtesy Chapman Electric Neutralizer Co.*

**Static eliminators mounted on the slasher adjacent to delivery roll. The yarn passes over the static eliminator as it goes to the loom beam.**

**Anti-Static Devices.** Occasionally for rayon, more often for synthetic yarns, the use of an anti-static device is helpful to wind the yarns on the loom beam in a better, less fuzzy condition. One type is the electric device, charged with a high voltage current, but set so that in case of shorting, the amperage will be low and not as much current will flow; an accidental contact will not be dangerous, but only uncomfortable. The other is a bar containing a small amount of radio-active material, with a harmless type of ray.

Either of these acts by ionizing the air, which allows the static charge built up on the yarns to disperse rapidly into the air. The device may be placed over the warp between the comb and the drag roll, or it may be placed under the warp between the drag

**Operative weighing size ingredients which are used in small quantities.**

roll and the loom beam. The latter position is preferred, since more static may be built up on passing over the drag roll, particularly if the drag roll is rubber-covered.

**Weighing Equipment.** The size maker should be furnished with a set of good scales, preferably a small platform scale which will weigh up to 500 pounds, with a platform sufficiently large to hold all the containers necessary for a batch of starch or gelatin. A second smaller scale should be used to weigh small quantities more accurately. These scales should be checked by the overseer at frequent and regular intervals to see that they are weighing correctly.

It is desirable that the containers for the starch or gelatin be of such size as to hold one complete batch so that the total can be weighed at one weighing. This is in order to avoid errors on the part of the size maker.

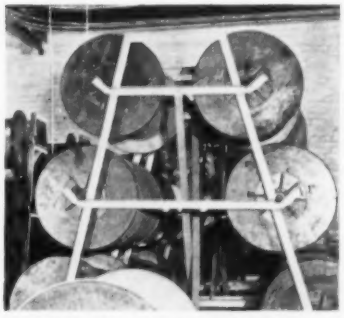
In the selection of these containers, bear in mind that they should not be too big for one man to handle easily without spilling, or so small that the required number cannot get on the scale all at one time. Size formulas adjusted to the weight of one or two sacks of starch are most convenient, with less chance of error.

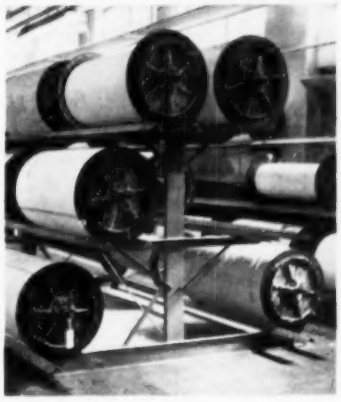
**Beam Storage.** In order that the beams may be kept in good condition so that the heads will stay at perfect right angles with the barrel, it is necessary to take precautions when handling and storing them. For heavy beams, racks in tiers are very effective. For lighter beams, a rack can be used, which is made so that the beam is stored vertically, one spindle resting on the floor, and the other spindle held in place by a clamp fastened to the rack.

Another method is to use two parallel tracks about 1 foot high and 3 inches apart. The spindle fits between the tracks and the beam head rests on them. The tracks are made of angle iron to permit the beams to slide easily on them. This same storage can be used for loom beams to keep them from becoming dirty with resultant damage to the warp.

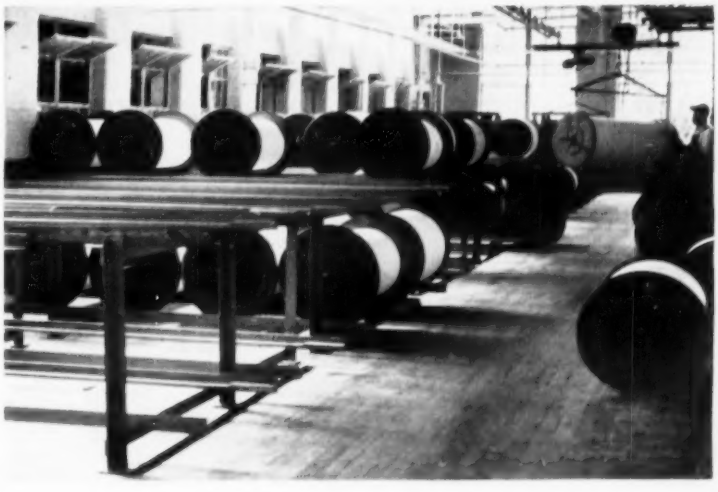
For the storage of section beams, a device rather inexpensive but effective is a long table about the height of a dolly truck, and of a width suitable to the section beam. The section beams are placed on this table at one end with a hoist or truck, and at the other end, which terminates just in front of the creel, a hoist lifts them into place.

Where a number of different styles are used, the most efficient





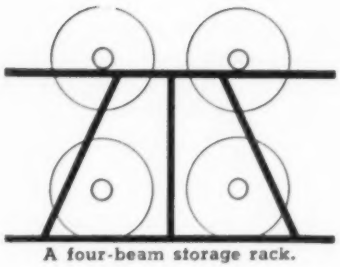
**Several types of beam storage racks, for section beams and loom beams.**



storage method is probably that utilizing four-beam racks, as shown in the illustration. The top beams may be picked up directly from the rack by a hoist, and the lower beams are rolled out on the floor where they may be reached by the hoist. In this way all beams are immediately accessible.

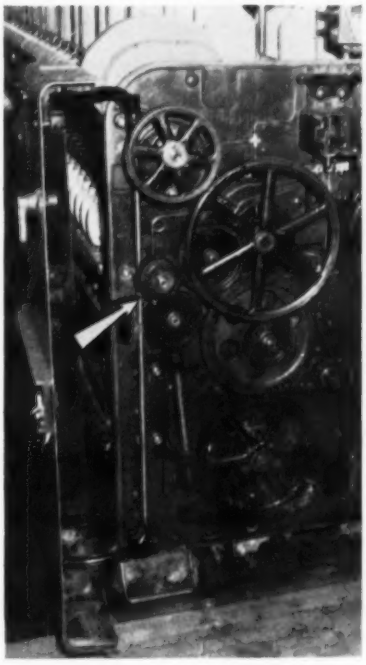
All beams should be checked at intervals to make sure that the heads are at right angles to the barrel, otherwise the "wobble" in the head will cause bad selvages. Loom beam heads should be painted often enough to prevent rusty selvages; particularly is this essential where a taped selvage is being run.

*(Continued next issue)*



A four-beam storage rack.

# Don't belittle the lay gear in spinning and twisting!



■ THE IMPORTANCE of the lay gear or rail gear in spinning and twisting is not as generally recognized as it should be, engineers of the Victor Ring Traveler Division of Saco-Lowell Shops point out. The lay gear is much more than simply a connecting gear in the train that operates the frame, they say. Since it controls the speed of the ring rail traverse, it should be carefully selected in accordance with the type of fiber and number of the yarn being spun.

According to information made available by the company in a recent issue of its publication, *The Traveler*, a few teeth of difference in the size of the lay gear used is often the difference between good packages and poor packages, and between normal wear and excessive wear on equipment.

Following are practical suggestions and a simple formula for determining the proper size lay gear which were presented in the article:

Use the formula below for quickly determining the proper size lay gear for a different yarn number, assuming the yarn now being spun has the correct lay:

$$\frac{\text{Square root of Yarn No. being spun}}{\text{Square root of Yarn No. to be made}} \times \text{No. teeth in Lay Gear being used} = \text{Lay Gear to be used}$$

After changing gears, examine the first layer of coils on the bobbin. If the coils are close enough to be barely touching, the lay gear is the correct size for building a good package.

*Yarn Diameter Varies with Type of Fiber.* Under conditions prevailing in most mills, when spinning cotton the lay gear of the proper size for the yarn number being spun will serve for spinning any other lot of the same number. However, when working with rayon or other synthetic fibers, or with blends, the difference in diameter of the fibers often requires a change in the size of the lay gear for different lots.

The size of the lay gear should be reduced in spinning smaller diameters of yarn, whether the reduced cross section is the result of the smaller diameter of synthetic fibers, or of a harder twist. Fine yarn numbers ordinarily call for a slower rail speed than coarse numbers, due to the difference in cross section and the lower strength of the fibers.

The following factors have an important influence on the spacing of coils on the bobbin, and thus on the choice of lay gear. The amount of twist to be used, humidity, the grade of material, and the condition (whether carded only, or carded and combed) should all be considered. All govern the number of coils per inch.

*Ends Down Increase When Rail Speed Is Too High.* The trouble set up by using a lay gear too large for the yarn number being spun is not limited to a reduced yardage on the bobbin. If the rail speed is excessive, the tension on the yarn is increased. When such improperly wound bobbins are mixed with normal properly wound bobbins from other frames properly geared up, the difference in tensions must be somehow compensated for in later operations if efficient winding is to be maintained.

This trouble from excessive rail speed extends even further. The higher tensions set up, especially on the binder stroke, put an extra burden on travelers, causing increased end breakage.

In attempting to correct the high rate of end breakage traceable to improper rail speeds, operators sometimes make the mistake of adding extra twist to the yarn. This only serves to make the yarn brittle and adds to production costs. The proper remedy is the choice of the correct lay gear.

# NTA seeks recognition of industry's needs

*Northern Textile Association launches program to have textile industry included in national planning*

Seabury Stanton, president of Berkshire Hathaway, Inc., blasted the system of supporting cotton prices at arbitrarily high levels.

Staff report

MEMBERS of the Northern Textile Association, gathered in Wentworth-by-the-Sea, N. H., for their 103rd annual meeting, heard a program outlined for the coming year which would press for national, foreign trade, and farm policies that would recognize the needs of the textile industry.

In a report to the members, Seabury Stanton, president of Berkshire Hathaway, Inc., and chairman of the Association's National Committee, cited the progress that had been made in the past year, notably in the reduction of Japanese cotton goods imports, but also pointed to problems of growing complexity that await solution.

Although the comprehensive five-year quota arrangement with the Japanese, consummated on last January 16th, may not provide a perfect solution to this complex problem, Mr. Stanton said, the results to date have been constructive.

"In those areas of import concentrations, the reductions have been significant; the Japanese are living up to their commitments and imports of cotton goods from that country are now 41% of what they were a year ago; and there are mills operating today which would not be in existence if Japanese imports had been allowed to continue uncurbed," he said in summarizing this phase of the import problem.

THE RAW COTTON problem was the next subject in Mr. Stanton's report to the membership. He listed four pertinent aspects which create a handicap under which the industry must operate:

First, we are required as a result of government farm policies to pay about 25% more for our cotton than world prices, and we are not allowed to buy foreign cotton except in insignificant quantities.

Second, we must buy our raw materials at government-administered prices in a controlled economy.

Third, the government has been constantly reducing the acreage which farmers are permitted to plant to cotton, and supporting the price at arbitrarily high levels.

Fourth, all branches of the cotton textile industry are forced to struggle to sell their products at a profit, while handicapped by artificially inflated prices of their raw material, and are therefore at a disadvantage with other industries not so handicapped.

Mr. Stanton reported that the NTA has adopted a firm policy on this matter which it fully intends to pursue — a policy that would eliminate the present costly and discriminatory government system of pricing cotton. Likewise, he added, the Association's Wool Council has been giving serious study to the unfavorable wool pricing policy, and intends to follow through on a constructive program.

In summarizing, Mr. Stanton said that "during the past several years, our government seems to have singled out the textile industry for experimentation, and the relationship of our business to government has become an important part of our jobs. Although many of us resent it, it is increasingly more pressing and more important each year."

REDUCE PRODUCTION rather than cut prices was the advice given by John P. Stevens, chairman of J. P. Stevens & Co., Inc., who addressed the group briefly on the current situation in the woolen and worsted industry.

He also stressed the necessity for a realistic pricing policy. Very often, he said, prices on woolens and worsteds are set low, presumably in anticipation of competition — a competition that is imaginary.

NEW OFFICERS were elected; they include *Henry A. Truslow*, Ponemah Mills, Taftville, Conn., president; *Edward J. Russell*, Troy (N. H.) Blanket Mills, chairman of the Wool Manufacturers Council and vice-president of the Association; and *John F. Shaw*, Chicopee Mfg. Corp., Chicopee Falls, Mass., vice-president.

*Irene Blunt*, executive director of the National Federation of Textiles, was elected an honorary member of the Association.

# AMERICAN MONORAIL

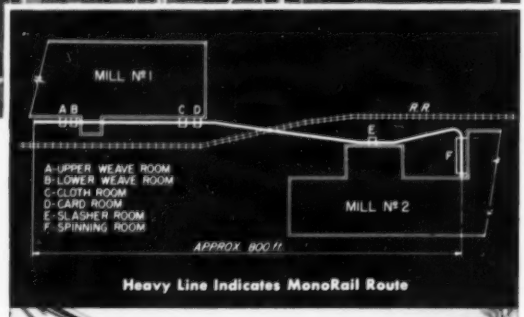
## transports cars between 2 mills-

### stops at ground and upper level stations.

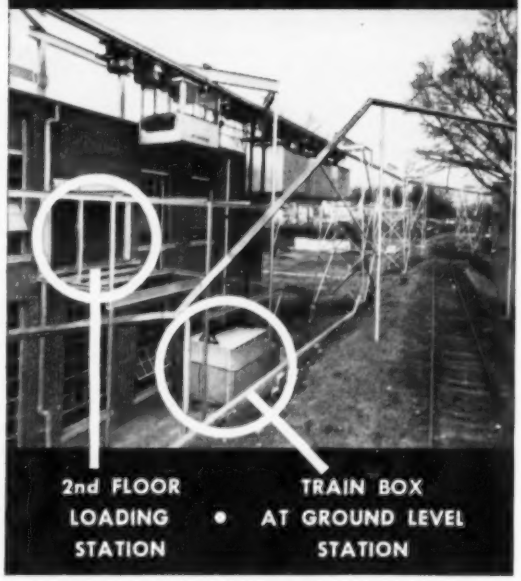
The equivalent of several elevator loads of material can be transported from building to building and from floor to floor by this modern materials handling system. Erected entirely out of doors, the MonoRail operates overhead, safely above railroad and all other traffic, and takes up no space at all inside the mills.

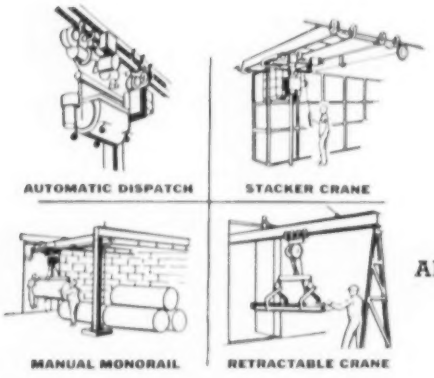
Loads transported consist of warp beams, boxes of filling quills, roving, trucks of drawing sliver and cloth. Approximately 132,000 lbs. from stations at each mill are transported during an 8-hour shift.

All operations can be controlled from the cab which is equipped with heaters, electric fans, windshield wipers, a gong and spotlights for night operation.




Heavy Line Indicates MonoRail Route




Member of American Textile Machinery Association

For Power Driven Conveyors, Use Landahl Chainless Conveyors

AMERICAN MONORAIL COMPANY

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(IN CANADA—CANADIAN MONORAIL CO., LTD., GALT, ONT.)

From Summerville (Ga.) Mfg. Co. came Curtis Meacham, E. C. Bridgeman, Holland Martin, and Earl Woods.

Clarence Burnham, Allen Bentley, Henry Jordan, George Bass, and Ed South, all of Swift Mfg. Co., Columbus, Ga.

# How to maintain humidifying systems

*was discussed by Georgia mill men*

Listening attentively are Lloyd Williams, Willis James, Otis Alston (maintenance discussion leader), B. V. White, and Clyde Cobb.

Staff Report

DESPITE weather fit only for hunters and football fans, approximately 260 men appeared at the auditorium of the A. French Textile School of the Georgia Institute of Technology, Atlanta, to attend the fall meeting of the Textile Operating Executives of Georgia, a meeting devoted to an open discussion of maintenance, slashing, and weaving.

*McAllister Isaacs, Jr.*, Bibb Mfg. Co., Anderson plant, Columbus, Ga., retiring general chairman, opened the meeting. He is succeeded as general chairman by *Clyde C. Cobb*, Trion (Ga.) Division of Riegel Textile Corp.

The discussion leaders were: *Otis Alston*, Swift Spinning Mills, Inc., Columbus, Ga., maintenance; *Lee Wynn*, Canton (Ga.) Cotton Mills, slashing; and *B. V. White*, Pacolet Mfg. Co. Plant No. 6, Gainesville, Ga., weaving.

In a general election following the meeting, *Lloyd K. Williams*, Peerless Plant of Thomaston (Ga.) Mills, was elected vice-general chairman to fill the vacancy left by Mr. Cobb. *J. A. Bradshaw*, Fulton Bag & Cotton Mills, Atlanta, Ga., and *Edward Hertwig*, Osprey Mills of Bibb Mfg. Co., Porterdale, Ga., were elected for 2½-year terms to the Executive Committee. The vacancies on that committee were created by retiring *E. J. Crocker*, Strickland Cotton Mills, Valdosta, Ga., and *Mr. Williams*.

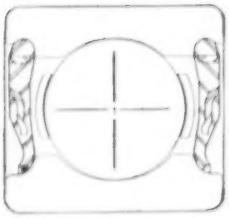
Presented here is a digest of that portion of the maintenance discussion which dealt with humidifier systems and wooden floors. Fourteen mills answered questions on the former topic; eight responded to the latter.

*What maintenance methods do you use for your humidifying system?*

*Mill B* uses one man constantly at checking heads, blowing out air lines, etc. *Mill D* removes Bahnson heads annually, checks them, paints them, and greases bearings. The atomizers in carding and spinning are maintained by the personnel of those departments. *Mill F* has adopted a preventive maintenance program of cleaning and lubricating.

*Mill H* uses maintenance charts

# ND FACTS



The diagram shows in section the New Departure Sentri-Seal. Lip-contacting surfaces are form-ground simultaneously with the ball race, giving an extremely high degree of concentricity between sealing surfaces and the raceway.

The unique design of the Sentri-Seal gives optimum protection against dirt, and includes a number of other major advantages.

Sentri-Seals can be removed, easily replaced. As the seal is of synthetic rubber in which two metal rings are embedded, a constant-rate spring is created between the rings. Inherent flexibility prevents distortion of the bearing outer ring due to seal insertion, permitting the use of bearings to the higher accuracy specifications. The spring action maintains an efficient sealing contact with the bearing ring to bar dirt and retain lubricant. Sentri-Seals are relatively inert to oils and greases and operate satisfactorily through a temperature range of −40°F. to 225°F. Specifications available for still higher temperatures. In applications where relubrication is desired, it is easily accomplished by the injection method.

***Write for full details on Sentri-Seal***

Sentri-Seal is available for a range of sizes in single-row, standard-width bearings and also in two types of New Departure adapter bearings. Sizes, dimensions and capacities are listed in the latest New Departure catalog.

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NEW DEPARTURE
DIVISION OF GENERAL MOTORS, BRISTOL, CONN.
NOTHING ROLLS LIKE A BALL

containing daily, weekly, monthly, and semi-annual operations. *Mill I* changes and overhauls all atomizers yearly, makes regular inspections of all humidifier controls, and also makes other needed repairs. Machine shop crews do the work.

*Mill N* keeps two men on each of the first and second shifts to perform scheduled maintenance and repairs. These men work plantwide and perform any unscheduled work pertaining to humidification. On the third shift repair calls only are performed. As part of an annual cycle, each head is dismantled, cleaned, and rebuilt if needed.

*Mill O* has assigned a crew to maintaining humidification, and has scheduled the inspection of heads, control, and other elements on specific dates.

*Mill T* uses one man per shift to perform maintenance work from a schedule which lists both his duties and their frequencies. The duties include cleaning, inspecting, and repairing heads, controls, central station apparatus, changing control box filters, etc. Additionally, he answers work orders issued in the various departments. These orders contain the name of the issuing department, the reason for the order, the time the order was written, and the signature of the issuing supervisor. In *Mill U* each department maintains its own humidification system except for such basic work as replacing water and or air lines. The shop maintains those.

*What type humidifying system do you have?*

The mills use all types, but a roster of the types in use would add little to this article. Thus no type is mentioned unless it is identified with a specific maintenance procedure.

*How do you stop a head from leaking?*

A composite system would read something like this: If the head still leaks after the water level in the boxes and the head angle are found to be correct, the head and lines clean and tight, replace with a good head and overhaul the defective one. The repairing would be done at a central work station equipped with the necessary testing equipment, spare parts, and tools.

*How do you eliminate condensation in your compressed air lines?*

Some of the plants reported that the problem is still not solved even with aftercoolers, separators and/or traps installed in the systems. This is reported to be the correction in most cases, however, with occasional or periodic line-blowing or trap draining being used as added precautions.

*Mill J* drains its lines two or more times each eight hours. *Mill P* prevents the condition by using aftercoolers and traps in the receiver tanks.

*How do you keep your humidifier lines clean? Do you use a chemical? If so, what kind, how much, and how often? What is your cleaning frequency?*

*Mill D* uses no chemical. Instead, water is passed over a gravel bed, which together with the tank holding the gravel, is cleaned yearly.

*Mill E* pours six pints of Rustang into a container and drips the contents into the lines over a 24-hour period. *Mill H* keeps lines clean by keeping strainers clean and in place. *Mill F* treats the humidifier water with one quart of Algor daily. *Mill P* flushes atomizer lines daily, but uses no chemicals.

In this question about half the plants discussed cleaning the outside of the lines while the others discussed cleaning the inside of the lines. Of those mills discussing outside cleaning, the majority resort to mopping or wiping the lines and heads.

*Do you have trouble with rust in your humidifier lines? What is the pH range of your water? Have you used a rust preventive? If so, what kind and how much?*

*Mill D* has very little trouble with rust, does not use a preventive, and has water of pH 8.6. *Mill E* uses Rustang which contains a rust preventive, but has no record of pH. *Mill H* uses water of pH 8.4. *Mill I* reports using water with pH from 8.0 to 9.0. *Mill J* uses alkaline water from its own deep well, and takes steps to neutralize it. Rust is no problem. *Mill N*, with water of pH 7.5 to 7.8, uses no rust preventive but is only slightly bothered with rust.

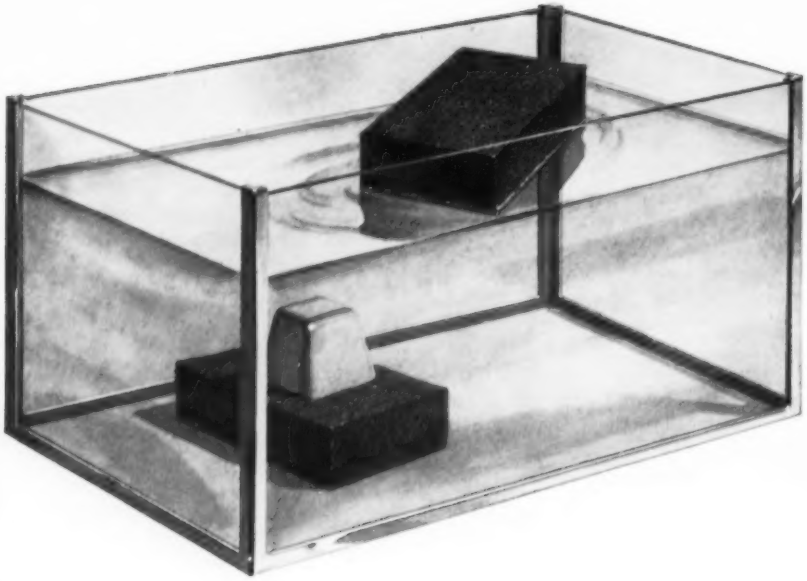
*Mill O* has tried many preventives without success, has water of 7.6 pH, and is still bothered with rust. *Mill P* uses no preventive, has a pH range from 7.3 to 7.8, and is not bothered with rust. *Mill Q* is bothered with rust, has water of 7.2 pH, and uses no preventive. *Mill S* has some rust, but reports that it is not enough to cause trouble. The pH is from 7.4 to 8.4. No preventive is used. *Mill T* has very little trouble with rust, and does not use a preventive. *Mill U* uses no preventive, has water pH ranging from 6.7 to 7.0, and is bothered with rust.

*What is your floor maintenance schedule? What is your cost per 1000 sq ft for dry-type finishing?*

Four plants had no cost figures available. *Mill E* gave an estimated cost for sanding and sealing of $100.00 per 1000 sq ft of floor space. *Mill O* reworks its floors yearly by steel wooling and resealing. Areas of excessive wear are sanded, sealed, steel wooled, and sealed again. The plant also "tones" its floors 12 to 15 times per year, and reports a cost of approximately $10.00 per 1000 sq ft. The "toning" agent used is an oil-base compound which has a combined cleaning and polishing effect. It is applied in very small quantities, but is sufficient to protect sealer from much wear.

*Mill R* buffs floors each two months for four buffings. On the fifth buffing, a light coat of heavy duty finish is applied—the areas under machinery are painted once yearly with a gray lacquer. The cost of all sanding, cleaning, finishing, and painting amounts to $100.30 per 1000 sq ft. *Mill S* reported a cost of $63.79 per 1000 sq ft for 1956.

*(Look for continuation of this report in the December issue. Included are loom maintenance procedures, cleaning and replacing fluorescent lights, and how to prevent moisture condensation on walls.—The Editors)*



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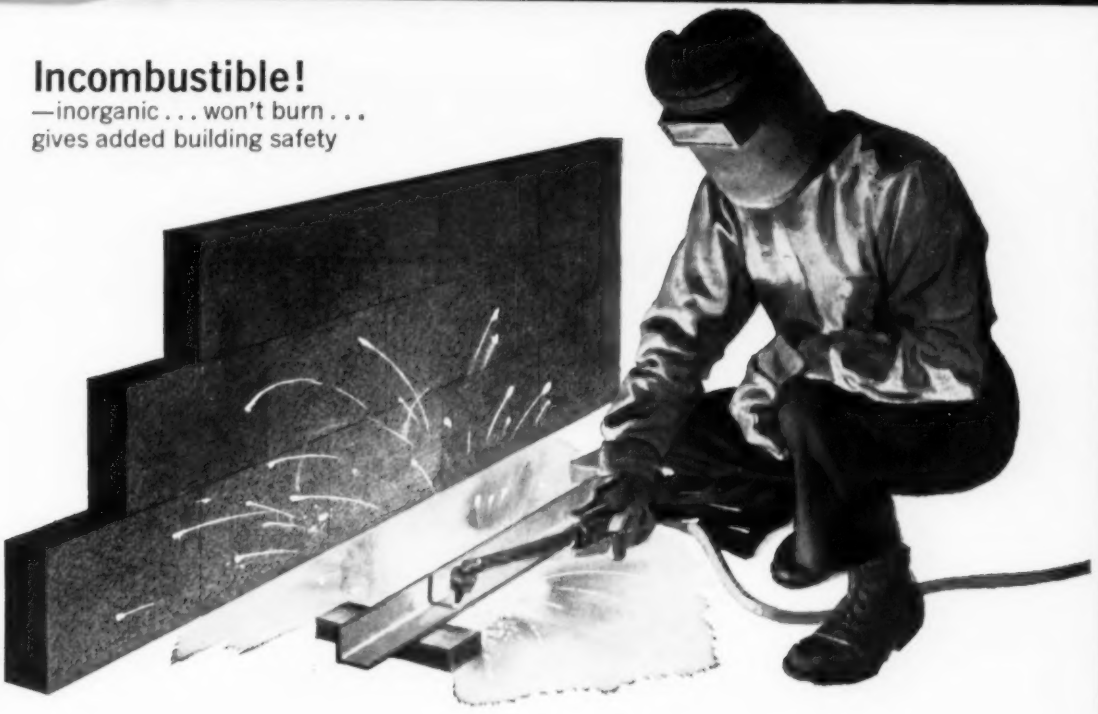

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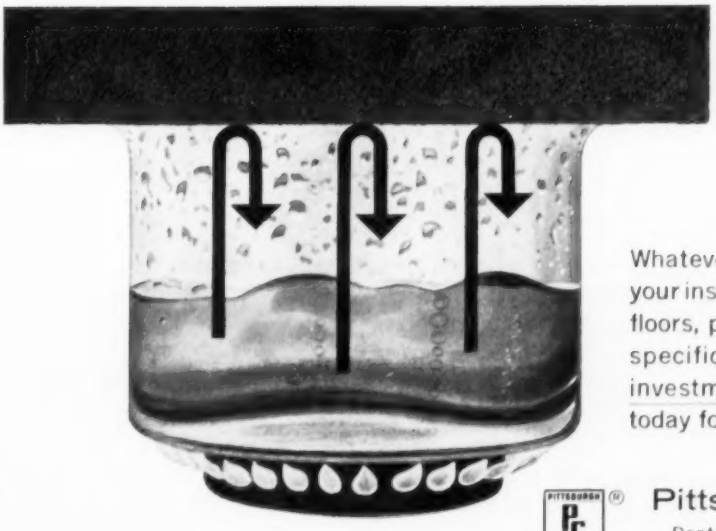

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## *THE OLD BOSS DYER SAYS:

Fine yarn mills which are located in smoky districts (near other factories or railroad tracks) can get dirty (sooty) yarn at some points on the bobbin when the build of the yarn package in spinning is slow. Notify your dyer that this condition may exist so that he can prepare for it if he must dye pastel shades.

* MORTON MACHINE WORKS, INC., brings you the Old Boss Dyer with a timely tip on dyeing each month.

MORTON also brings you the finest line of dyeing, bleaching and drying equipment available today—THE MORTON SYSTEM.

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May we hear from you?

# MORTON MACHINE WORKS, Inc.

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*This mill technician makes a correlation between*

# Fiber recovery and its spinning properties

by W. P. Cofield
Exclusive

THERE have been several articles written on fiber resilience or recovery, but little if anything has been written or said about its effect on spinning.

For even as long as man has been spinning natural fibers (up to the present time where textile mills are spinning several synthetic fibers along with the natural fibers) there are times when the fibers refuse to behave and allow themselves to be spun into yarn. They will break back in the creel or wrap around the rolls of the frames.

What causes this? Some lay it to "blackberry winter." Others lay it to humidity and static—some to the fiber itself. What is there in the fiber which would cause these "flare-ups" when atmospheric and all other outside conditions seem to be the same as they were when everything was running smoothly, and the operators had time to gossip about their next door neighbor?

Of course there is the honeydew that infests some cotton. Then there is the doughnut fiber; and the fluorescent cotton which will cause these "flare-ups." But what about the synthetic fibers which are supposed to be free of these infestations?

The personnel in a certain mill that was running rayons were having nightmares trying to get the fibers spun into yarn. One lot had run very good, but when they laid out another lot to run (all in the same day too), it refused to be spun—yet all the physical characteristics that were tested on this lot of rayon compared favorably with the staple length, coefficient of variation in length, denier, and air flow measurements of the rayon that ran good. However, there was a difference in the "hand" or feel of the fibers.

*A Fiber Property Classified.* It was decided that some way or means be devised to place a numerical value on the "hand" of the fibers. This was accomplished with a compressometer after making a few changes. A cylindrical cup two inches high and two inches in diameter, having a wall thickness of approximately ⅛", was used to hold the fibers. A presser foot having a diameter of 1⅞" was mounted on the compressometer in place of the conventional presser foot. A one-pound weight was mounted on top of the compressometer as an initial load. A small motor having a speed of ½ rpm was mounted onto a bracket above the compressometer, which had an additional four-pound load attached to the pulley of the motor. The height of the motor was fixed for the four-pound load to come to rest on the top of the one-pound weight fastened to the compressometer and remain at rest for one minute.

Fifty grains of rayon, thoroughly fluffed, were placed into the cup which was then placed directly beneath the presser foot of the compressometer, the presser foot lowered onto the mass and allowed to remain for one-half minute. After one-half minute a reading was recorded from the compressometer.

The four-pound weight was then lowered at a constant rate of speed onto the compressometer. After the four-pound weight had remained for one minute another reading was recorded and the four-pound weight removed at the same rate of speed in which the loading was made. After the load had been removed, and one-half minute had elapsed, another reading was recorded and a recovery index calculated by the following formula:

$$\frac{R - C}{C} = \text{Recovery index}$$

where C = compressed fiber reading
R = recovered fiber reading

Several hundred tests were made within lots and between lots, and also between rayon manufacturers. All tests indicated that there might be something worthwhile to study in the recovery versus the spinnability of the fiber.

After checking the recovery of the fibers from a twenty-bale lot the recovery index was found to vary from a low of 14.5 to a high of 19.5. Four bales were selected that had an average recovery index of 19.

The four bales having the low recovery index were processed together and the four bales having a high recovery index were processed together. Both mixes were processed one behind the other using the same cards, drawing, fly frames, and spinning frames so as to eliminate as many variables as possible.

*The Fiber Property Shows in Spinning.* There was no noticeable difference in the processing of the two mixes in the card room, but when the mixes hit the spinning room there were approximately 60% more ends down per 1,000 spindle hours with the rayon having the high recovery index than there were with the rayon having the low recovery index.

These results led to the theory that fibers having a high recovery would tend to spring out in all directions during processing, thus causing some to be caught in nicks and rough places along the path of

*(Continued on page 189)*

*No. 2 in a Series*—how your Du Pont salesman is backed by many sales-building activities including Fiber Research, Technical Service, Fabric Development and Merchandising.

# This Du Pont merchandiser sells tons of fiber

Here in Du Pont's Women's Wear Fabric Room, Myra Kelley, a Du Pont merchandising representative, points out to David Schwartz, president of Jonathan Logan, the contributions Du Pont fibers make to the season's newest fabrics.

In these unique combinations of textile libraries and showrooms (there are men's wear and home furnishings fabric rooms, too), over 5,000 samples are catalogued seasonally.

The single purpose of these rooms in the Empire State Building is to tell retailers, cutters and fashion editors the advantages that Du Pont's modern-living fibers are bringing to today's most exciting market fabrics. Here is created an extra trade excitement that makes for better business for Du Pont customers as a whole. With these showrooms off limits to

**FROM RAW FIBERS TO RETAIL SALES . . .**

# but never writes an order

millmen and converters, each exhibiting mill's individual interest is rigorously protected.

Du Pont merchandising representatives have wide contacts at all levels of the trade. They promote new concepts and ideas that stem from Du Pont's modern-living fibers, bring back market reactions that aid in making your Du Pont salesman the best informed in the industry. This helps you and Du Pont anticipate new demands, plan broader markets.

Du Pont believes it can increase the market for its fibers and thus benefit its customers by providing useful assistance to all levels of the textile industry. It's through your Du Pont salesman that you, as a customer, have access to a range of technical and merchandising information unique in the textile industry.

## *Product and Process Notes from Du Pont*

**Color-Sealed Black**—Now the rich, clear black of Du Pont's color-sealed nylon yarn is available in 40 denier as well as 70, 100, 200 and 260 denier. Dresswear, blouses, lingerie, sportswear, hosiery and upholstery are a few of the countless applications of these bright BLACK nylon yarns with the color sealed into the fiber.

**New Bleaching Method for "Orlon"*—** A simple method has been developed for bleaching the new, whiter, more dyeable "Orlon" to an excellent white of improved stability. Bleaching is accomplished by treating the fabric or garments at the boil in a bath containing formic acid and a detergent. Additional whitening can be obtained by application of a fluorescent white dye and a minute amount of blue dye in the same bath.

**Improved Packaging**—50, 70, 140, 200 and 210 denier nylon yarn is now available on 5-lb. draw-wound tubes. Advantages of this package are elimination of pirn taper barré, more uniform shrinkage—resulting in more uniform dyeing and fabric-width uniformity. Reduction in creel stocking frequency results in labor savings. This package is suitable for broad woven fillings of zero twist yarn, certain bulk and stretch yarns, plied yarns and tape reinforcement.

**Technical Information Bulletins**—contain detailed, practical information on Du Pont product and process developments. They cover fiber properties, mill processing, dyeing and finishing. Refer to your copies frequently; they can save you time and money. To be sure you have all the bulletins you need, check your Du Pont salesman or Technical Service representative.

*Du Pont's registered trademark for its acrylic fiber.

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The *Saco-Lowell Fancy Roll* causes a worthwhile increase in production by eliminating the need of stopping and stripping at frequent intervals. For either flat or roller top cards, the *Saco-Lowell Fancy* improves quality by preventing loading of the cylinder. Carding is helped by the Fancy when running nylon and other synthetics, blends, or cotton with a high percentage of waste.

Today's intense competition means that pennies per pound makes the difference between profit and loss . . . the *Fancy* is another Saco-Lowell cost reducing essential which helps you make a profit.

Remember, too, the *Saco-Lowell Fancy* cannot be matched for quality of workmanship or design because it is properly engineered by the same design staff, manufactured by the same skilled technicians, in the same shops that produce the entire card.

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**For short staple lengths —**
**THE CONTINUOUS STRIPPER**

This unit is designed to do the work of the Fancy on cotton and some synthetics where fibre length is not over 1-9/16". For these shorter staples the CONTINUOUS STRIPPER remains the finest stripping device.

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# HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
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**Write to the Editors!**

Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editors "Textile Industries," 806 Peachtree St., N. E., Atlanta 8, Ga.

## Weave metallic yarns flat—a reply

*(In the September, 1957 issue of* TEXTILE INDUSTRIES *Contributor No. 9043 asked for advice on making metallic yarns lie flat in woven fabrics. Two replies are printed below.—The Editors.)*

THE EDITORS:

My reply to CONTRIBUTOR No. 9043, who requested information on how to make metallic yarns lie flat in the fabric, is that this type of yarn causes a few headaches at first, but that it presents no really difficult problems.

First, I suggest that No. 9043 check with his yarn supplier as to the type of yarn recommended for the operation under discussion. The suppliers are very cooperative, and can help the manufacturer avoid a number of false starts.

To weave spots where the ends are ¾" apart across the cloth, we use a creel behind the warp to hold the yarn packages, and supply the tension by threading a piece of harness cord in and out among the spools. We tie one end of the cord to the creel at the top of the column of spools, and fasten the other end to a hook-and-spring combination at the floor level. The spring must be selected to supply the tension required without overdoing it.

We use 1/64" yarn running on a 16-harness weave. The warp yarn is 14s spun viscose; the filling yarn (36 picks) is 10s spun viscose. We reed three ends per dent in a 25-dent reed.

Where the creel is not practical due to a large number of ends, we warp the yarn on an old Zipp warper from which we have removed the creel. We warp the yarn on paper beams holding approximately 800 yards of yarn.

We run the metallic yarn through a reed mounted on the warper directly behind the beam. To prevent the yarn from piling up in ridges on the beam, we made the reed to oscillate laterally about ½".

We mount this beam on a frame work on the back of the loom, and supply tension by attaching a length of 1" tape to the loom side and passing it over the rope flange to the conventional hook and weights.

We keep the tension just tight enough to keep us out of weaving troubles, for too much tension spoils some of the yarn's brilliance. Furthermore, uneven tension among the warp ends will show up something awful in a finished table cloth containing wide stripes of metallic yarn and a plain weave ground.

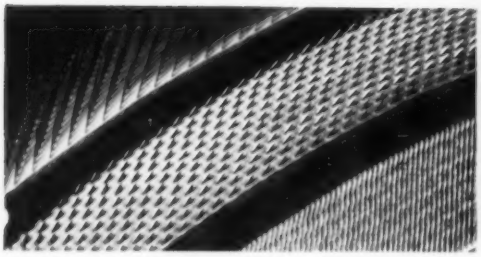
When the metallic yarn is used as filling, the problem becomes one of quilling and of quills.

The type of quill is important. We find that smooth quills with about 1/64" (width) indentations in the barrels, cut from the butts to within an inch of the end, best. We find the ideal quilling speed to be about 100 rpm, using a No. 5 wind and the longest possible traverse with minimum tension. The outside diameter of the pack-

## He Won $100

**Harold F. Garner** of Marion, Virginia, won TI's Kink Contest which ended August 15.

The current one ends December 15. See page 165 for details.



# CARDER'S CORNER by Ashworth

CARDERS!! The purpose of this page is to serve as an open forum each month. If you have problems which you would like to throw open for discussion or if you have further comments on problems already presented, write to CARDER'S CORNER, care of Textile Industries, 806 Peachtree Street, N. E., Atlanta 8, Georgia.

Volume I, Number 11

## QUESTION

**How do you prevent ragged selvages?**

## ANSWER

1. Keep all oil wiped from screens and other places around the inside of the card where fibres can accumulate.
2. Remove the doffer and wipe the flange, the cylinder flange and inside the card arches.
3. Remove front and back plates and look for rough places at the ends.
4. Clean the inside of the entire card frame of any accumulations of oily lint.
5. Pull the cylinder screens and look for bent or broken ribs. Wipe every part of the screen clean and dry.
6. Relevel the card frame and check the level of the cylinder, doffer and lickerin.
7. Remove any obstacle on the inner surfaces of the frame sides that would retard or "hang" fibres.
8. Polish all parts, using whiting or black lead stove polish.
9. Check the position of cylinder, doffer and lickerin with respect to their position in relation to the arches and to each other.
10. Avoid the excessive use of oil.

**ASHWORTH BROS., INC.**
*American Card Clothing Co. (Woolen Division)*
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age should not exceed twice the diameter of the bare quill. This gives a small and straight package.

Attention must be paid to bunches. They must not pile up and fall over, but be long and even. The feeler on the loom should be set as far up the quill as the slot in the binder will allow. We run this type of yarn on XD and W-3 looms, and find that running the metallic yarn in the lap box on the W-3 looms gives us less filling breakage.

CONTRIBUTOR No. 9060

THE EDITORS:

Our reply to CONTRIBUTOR No. 9043, who requested information on weaving metallic yarns without having them twist in the fabric, is as follows:

We are running 1/64" gold (unsupported) as decorative ends in a few fabrics and also 1/64" gold (supported with 30 denier nylon) in filling. After quite a bit of difficulty we standardized our warp set-up as listed below, and have experienced no difficulty in weaving decorative ends in marquisettes and in satin stripe marquisette fabrics. We run 90% to 92% efficiency, and approximately 3½% seconds on 56 looms—162 picks per minute. Basic warp run is 70 denier nylon.

We built a creel of 1½" angle iron and bolted this to our top beam stand (if we already are using the top beam stand, we extend the creel from the top beam stand, using 10" strips of flat iron). The angle iron is notched so that a ¼" rod can be put in and lifted out easily, and the stand is made to accommodate four to five rods which are used as skewers for ½-lb spools of metallic yarn (½- or 1-lb spools purchased from manufacturer). We find that a center support of 1½" angle iron is desirable, so that our creels are made of four pieces of angle iron.

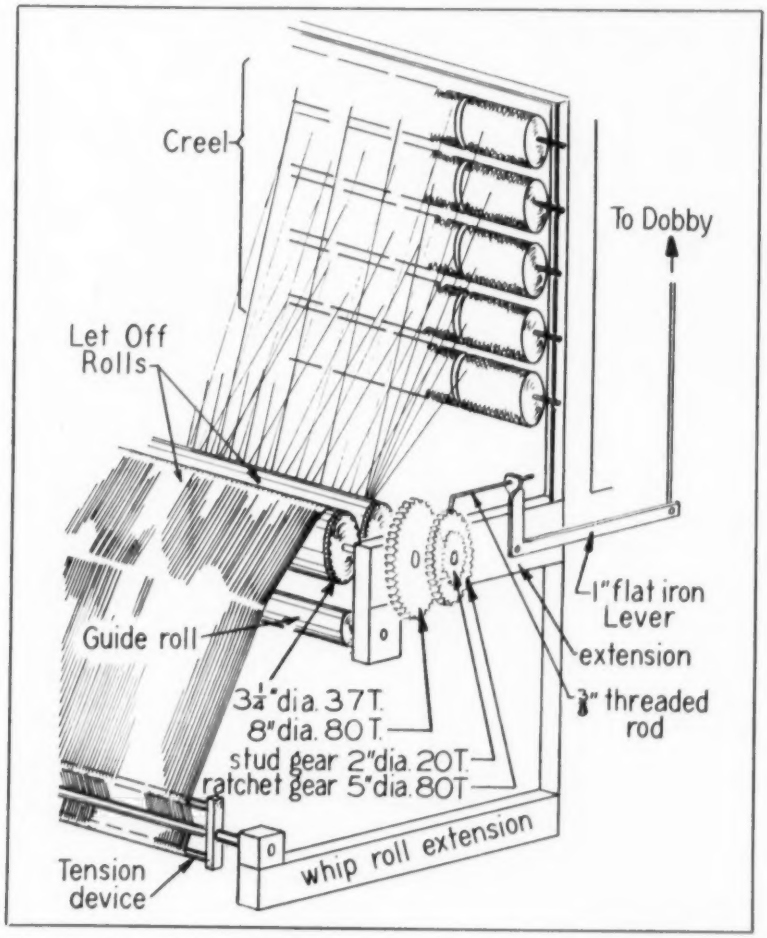
We ran the metallic ends, using a positive let-off for the top beam (our let-off), and discovered that yarn was feeding unevenly. So we made a tension device of three ½" steel rods welded on flat iron—the rods are 2" apart. In running the ends from the spools we use a small spring and collar to position spools. We also use a felt washer to separate the spools. This set up along with the tension device tends to make the metallic yarn weave in flat without rolling or curling.

Naturally with this set up decorative ends are entered on the loom rather than in draw-in room.

The supply packages are grouped on individual rods according to spacing of decorative ends in warp. We stagger our packages to prevent ends rubbing on the heads of spools on other rods.

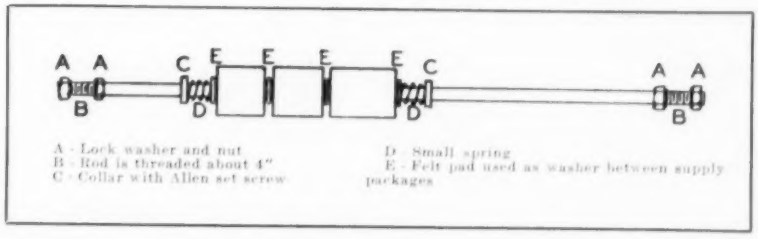
Any convenient connector can be utilized to hook the let-off device to the dobby head. The let-off rolls are 59" long, 3" in diameter, and are felt-covered.

All quilling is done on Universal




This mill-made creel for packages of metallic yarn is used by Contributor No. 9061.

Sketch shows how ¼" rods are used for holding the yarn packages.




A - Lock washer and nut
B - Rod is threaded about 4"
C - Collar with Allen set screw
D - Small spring
E - Felt pad used as washer between supply packages

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FOR BACKFILL

## Victor 10-55

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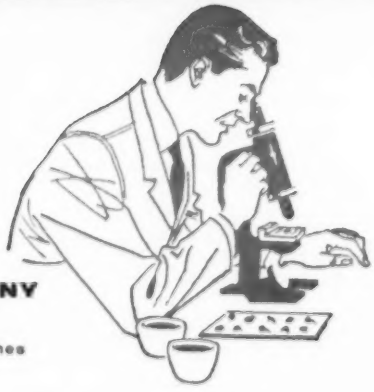

Charles C. Switzer, Vice President
**TEXTILE SALES DIVISION**
1500 S. C. NATIONAL BANK BLDG.
GREENVILLE, SOUTH CAROLINA

**THE KEEVER STARCH COMPANY**
GENERAL OFFICES-COLUMBUS, OHIO
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90 quillers. A small U frame is made to replace the regular skewer, and the 1/64" metallic is rolled off. To minimize the insertion of twist we find it necessary to use a tension device such as the Kidde double disk compensator or the Carrol tension device. So far as we know there is no way to eliminate inserting some twist in quilling, but in using this set-up we have not had a customer complaint.

The tension device is made of three ½" steel rods welded to a piece of flat iron. The rods are spaced 2" apart, and the flat iron bolts to the whip roll stand.

CONTRIBUTOR No. 9061

## Cleaners spin? Spinners spin? Spinners clean?

THE EDITORS:

Here are my reasons for wanting spinners to clean; and for wanting cleaners to clean while spinners spin. Both systems have merit.

Since the spinner-cleaner is basically a spinner, he or she knows good running work depends in part on good cleaning. In other words, a good cleaning job means the spinner will have fewer ends to piece up; fewer ends down mean more spare time for the spinner; and (because the frames stop less) more money. (I tell my spinners that the more they clean the better their jobs will run: and fewer piecings improve yarn quality.)

Sometimes spinners neglect the cleaning by not doing all the weekly cleaning required. This practice will not show up readily, but eventually the spinner will see the accumulated effects in the form of more ends down.

We check the spinning every week, and if a spinner has not done all the cleaning, we see that it is done the following week. This pile-up of cleaning duties sometimes requires the spinner to stop a frame or two while she catches up with both spinning and cleaning.

Since spinners are paid on a bonus plan, they lose money if the frames stop for reasons under their control. The incidence of bad work also increases during such times.

A spinner-cleaner is careful when cleaning because she knows that she will have to piece up all the broken ends.

If a spinner does not know how to blow off a frame with an air hose, she can stop off a nearby frame by blowing lint into the running work. Soon the travelers become plugged with lint and the ends start coming down in "bunches." This may happen to a very good spinner if she is not trained in cleaning or is "out of practice." In making ends-down checks we have discovered that the highest number of ends down occur when the spinner is cleaning.

I have seen a spinner, after blowing off her frames, piece up 100 ends in 20 minutes. This, on a job of 2100 spindles, is too high. Careless cleaning caused it.

The spinners patrol three times per hour, and usually piece up 20 ends per patrol. After the cleaning the ends down figure shrinks.

However, there are reasons why the spinner should not clean, and one of the most quoted is that of dirty hands. Sometimes this problem reaches the proportion of causing dirty ends to show up in the cloth after dyeing or printing. The oily ends do not absorb the dye properly and result in making seconds of otherwise good cloth.

Back to that blow pipe for a moment. If a cleaner isn't careful, he or she can knock down a lot of ends in cleaning the spindles and spindle rails. This will happen if the cleaner is in a hurry, even if the cleaner is experienced. It happens rather frequently when unskilled cleaners are on the job. (Sometimes it is best to stop a few frames and let the spinner catch up with the job after the cleaning is done.) We have our cleaners piece up the ends she breaks down, and this acts as a deterrent to careless cleaning.

One of the best reasons known for letting the cleaning be done by cleaners is that of cost. Cleaners are not necessarily as skillful as are spinners, and as a group are paid less.

In our plant we have 17 spinners who do their own cleaning. Those 17 spinners are supplied 17 sets of roller pickers and the necessary supporting equipment. Five cleaners could do the job using five sets of the above equipment. They would be paid less too.

The increased spinning the spinners could do if relieved of cleaning duties would permit the same number of frames to be serviced by 12 spinners. The total number of spinners and cleaners would equal the number of spinner-cleaners we now have, but the total payroll would be less—the spinners are on a bonus system. The cleaners would not be.

True, if the cleaner is to be responsible for piecing up the ends she knocks down, she will be piecing up with dirty hands. But she will be piecing up fewer ends with dirty hands than would the spinner-cleaner. Another thing in favor of the cleaner is that she would not be stopping frames for cleaning, so there will naturally be an increase in production.

We train our cleaners by letting them learn to piece up while working at scouring. From scouring duties we advance them to cleaning for about a year. From cleaning we advance them to spinning by assigning them to a small spinning job. As soon as they are able to run a full-scale spinning job, we place them on the list for such promotions.

CONTRIBUTOR NO. 9055
*(Canada)*

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# Reply to slasher squeeze roll pressure question

*(The following is a reply to Contributor No. 9050 who asked for advice on the amount of roll pressure to use when slashing 30s yarn. The question was printed in the October issue of* TEXTILE INDUSTRIES, *page 155.—The Editors.)*

THE EDITORS:

This question reminds me of the time they asked Lincoln how long he thought a man's legs should be, and he answered, "Long enough to reach the ground."

The pressure on the slasher roll should be great enough to give proper dressing of the yarns, which can be best told by individual experiment in the different mills. This is because there are so many other variables affecting dressing besides the pressure of the slasher rolls.

Among these are such things as the viscosity of the size, the twist of the yarn, whether it is combed or carded, the number of ends in the set, the weight of the blanket if a blanket roll, and the hardness of the rubber if a rubber roll.

We have found from experience that with blanket rolls, on the average one obtains best results with about 500 pounds on the back roll and 600-700 pounds on the finishing roll. This may be somewhat higher than has been the practice in the past, but we find with a good blanket that a better dressing is obtained at these higher pressures. Too much pressure causes the blanket to wear faster, but a little excess pressure does not generally hurt the size film.

When using rubber rolls, with the average density of the rubber, a total pressure of 1000 to 1100 pounds will be needed in order to get good dressing of the warps by the finishing roll. Otherwise too much size is left between yarns, and there may be some glazing of the warp. We have known some people to run their rubber rolls up to pressures of 2000 pounds (including the weight of the roll). We also know of another mill which tried running at 1400 pounds and broke the journals of the rolls.

On running up to very heavy pressures, one should be sure that the box and the rolls will stand it. As far as the yarn itself is concerned, we have not yet run into a case where heavy roll pressure has damaged the yarn.

We would recommend in most cases that the individual mill run their own experiments to determine how high pressure is needed for good weaving, that is without sticking on the cylinders, without shedding, and giving a good smooth yarn which will run well on the loom.

Running above this pressure is not advisable as it would simply increase the wear and tear of the equipment and the roll covering. The mills will usually find that the makers of their sizing ingredients will be happy to work with them on experiments of this nature.

PAUL SEYDEL, D.Sc.
*Seydel-Woolley & Co.*

# Electric motor housings reclaimed

THE EDITORS:

We were faced with replacing a large group of motors which had been running on our looms for seven or eight years. The ball bearings in the rear of the motor bell were working loose in the bell proper, and were about to become so loose that they either would start trying to turn with the rotor, or were about to allow the rotor to drop far enough to start shorting out against the stators. We now bush the bells and refit the bearings.

We made a face plate which would receive a bell and hold it securely while the outside was dressed to form a machined pad on the end of the bell. This pad is used to hold the bell centered on the face plate to permit boring the old bearing housing, and for boring the insert. Photos on next page show how this is done.

Once the pad is machined to fit

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► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

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Send your contest entry to: The Editors, TEXTILE INDUSTRIES, 806 Peachtree St., N. E. Atlanta 8, Georgia.

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Extra light weight bobtail.

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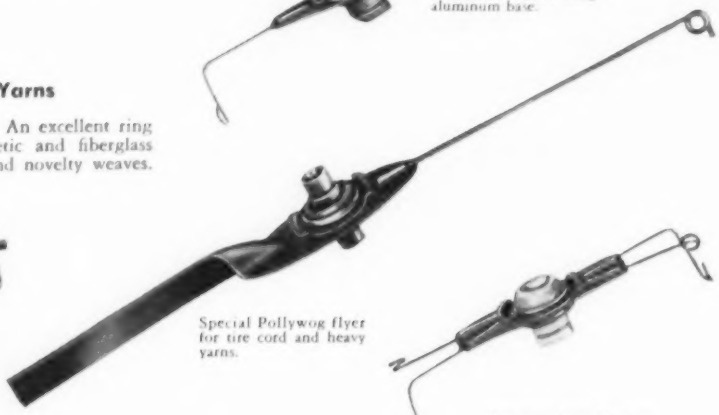
$\frac{43}{64}$" Face large diameter Conical Ring. An excellent ring for spinning and twisting wool, synthetic and fiberglass yarns for carpeting, tire cord, woolens and novelty weaves.



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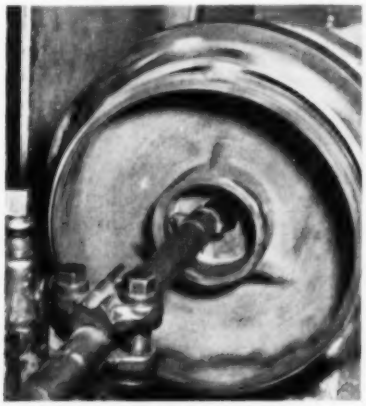
snugly into the recess in the face plate, it is a simple matter to bolt the bell in place and hold it securely for the final cuts. We adjust the bolts until the edge of the bell runs true in the lathe—the pad centers it.

We remove the excess metal from the housing with a boring bar. We next prepare bushing of cold-rolled steel and trial-fit it into the new housing bore. Once the bushing is fitted properly we secure it with three recessed-head set screws before the final boring. We do not remove these screws.

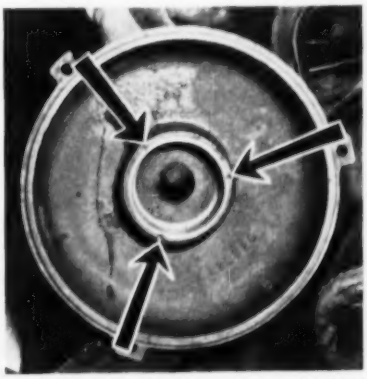
While establishing the system we ruined a couple of bells; but we have since gained a group of motors, and have suffered no failures in the finished products.

CONTRIBUTOR No. 9057

We dismantle the motor for inspection, and if we find the bearing housings are worn enough for the fingers to detect ridges, we schedule the motor for overhauling. We prepared a face plate, flanged to receive the machined edge of the circular bells. Three bolt holes in the face plate, matching those in the bells, are used to secure the bells to the plate. The arrows point to the flange, and to the recess which receives a machined pad explained in the text and illustrated in the photographs below.



We bolt the bell to the face plate which automatically centers in in the lathe. There is an unfinished pad at the end of the bell of this particular motor which we turn to fit a recess in the face plate. This pad enables us to center the bell in the plate. Again we insert the bolts, as in the previous operation, and begin the restoration by enlarging the housing with the boring bar (right photo).



For bushing material we use cold-rolled steel shafting. Once fitted to the housing, the bushings are secured with three recessed-head set screws (arrows) to hold them during the final boring. The bearings are trial-fitted to the new bore. Grinding in unnecessary.

## Mill man tells why card clothing blisters

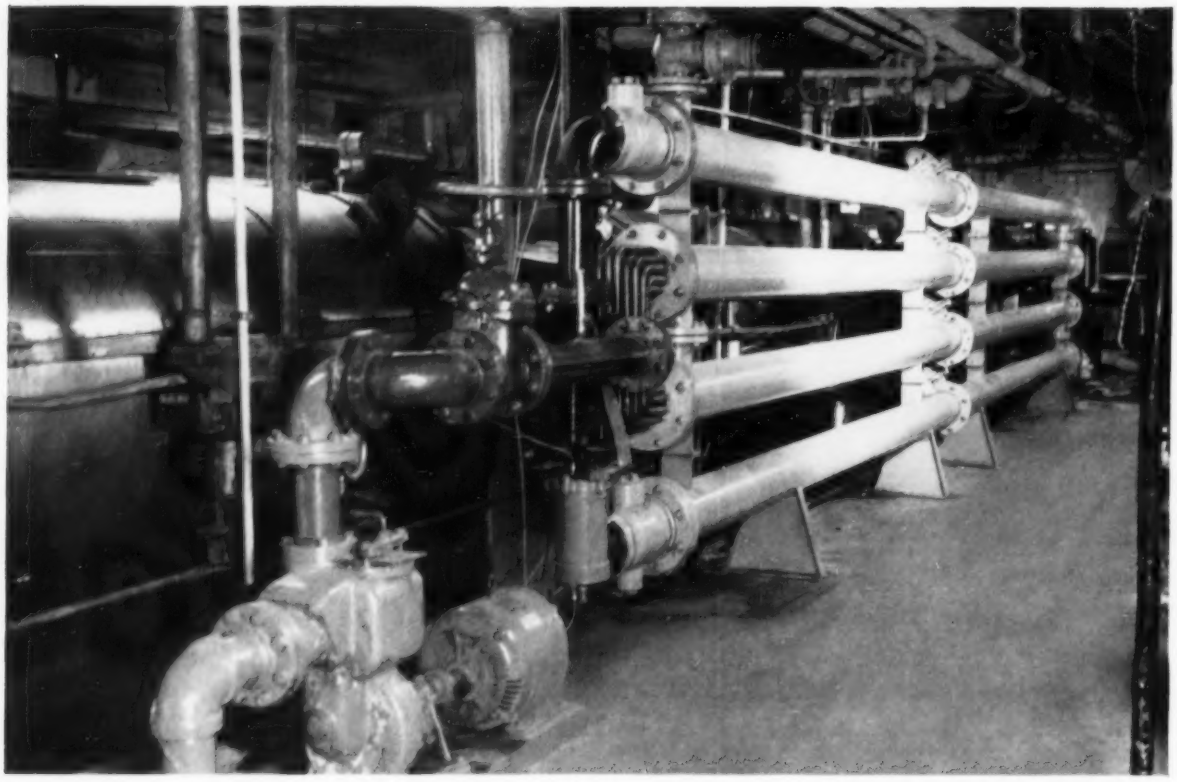
THE EDITORS:

There are several things which can cause blistered card clothing. One is high and low tension being applied to the fillet while it is being wound on the cylinder. Winding while the fillet is too cold, or while the room is too cold will cause tension variations in the finished clothing job.

One of the most common causes springs from the fillet being kept in a cold supply room and drawn onto the cylinder before the fillet has time to reach card room temperature. As the tacked-on fillet warms up, it begins to expand. Being crowded on both sides, and tacked to the cylinder at regular intervals, the clothing can only blister and face flats, doffer, plates, screens, etc.

Now and then one may notice hardened areas caused by excessive cement being used in fabricating the fillet. These areas may resist drawing down, and will appear as hardened blisters.

CONTRIBUTOR No. 9053



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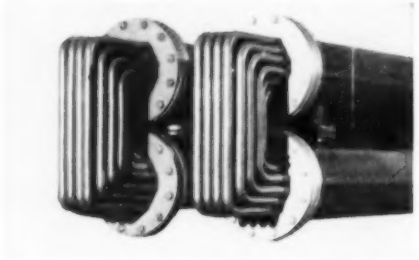

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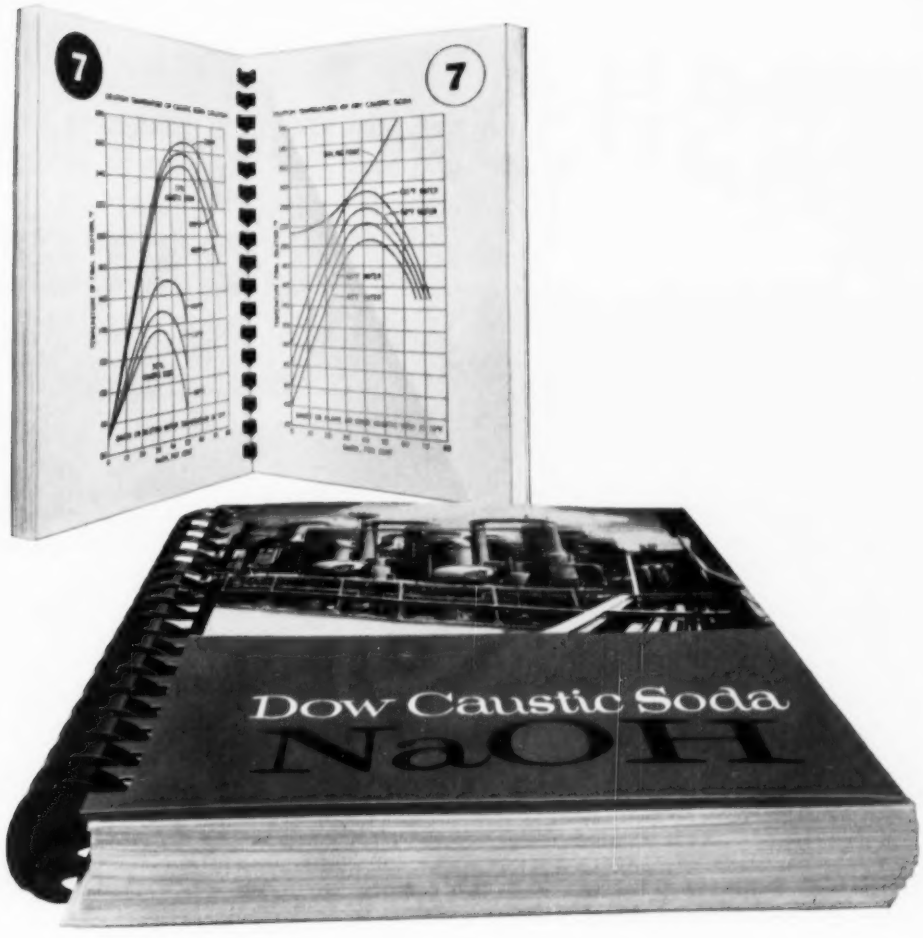


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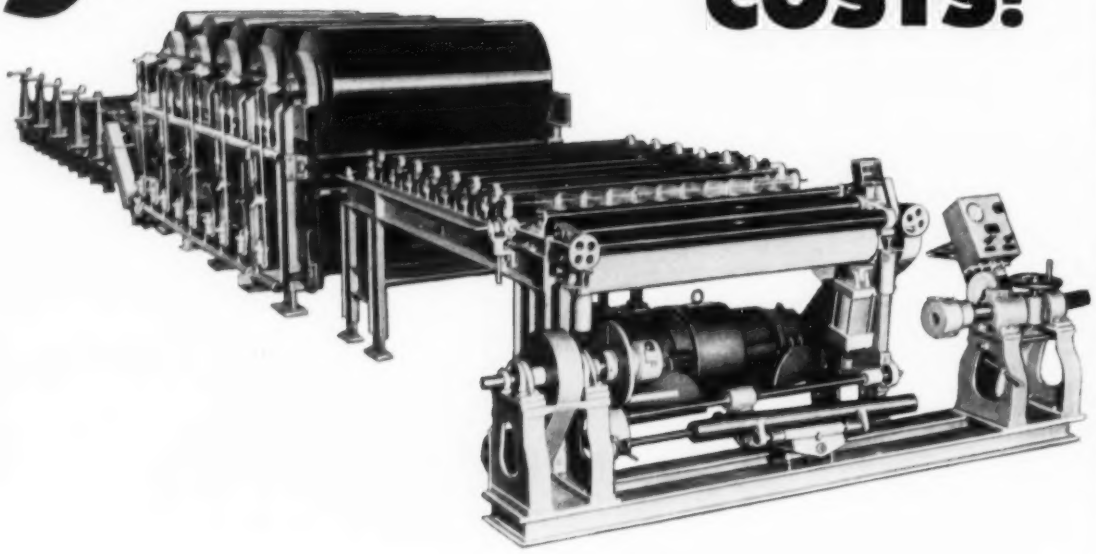

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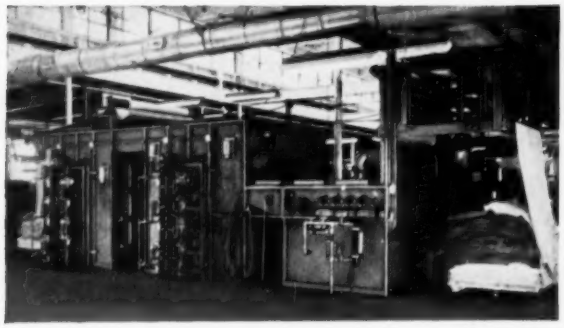

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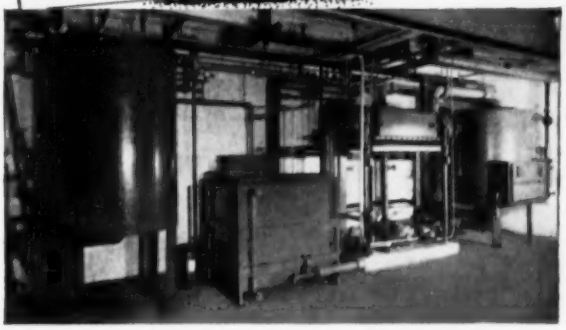

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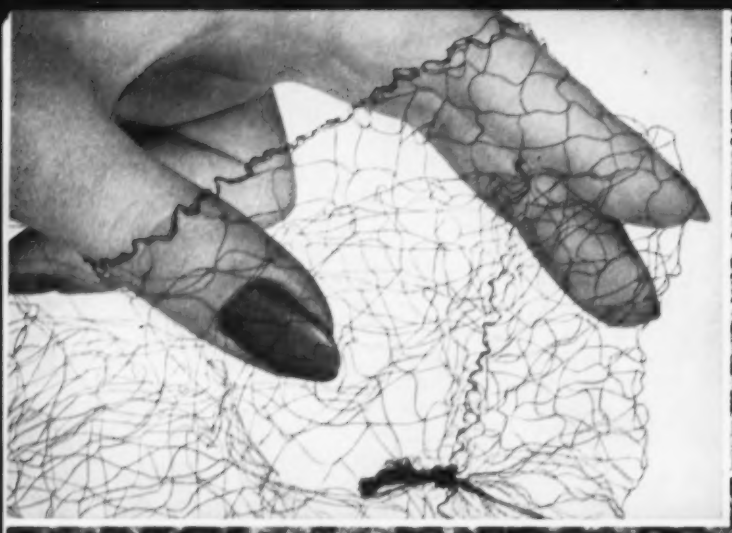

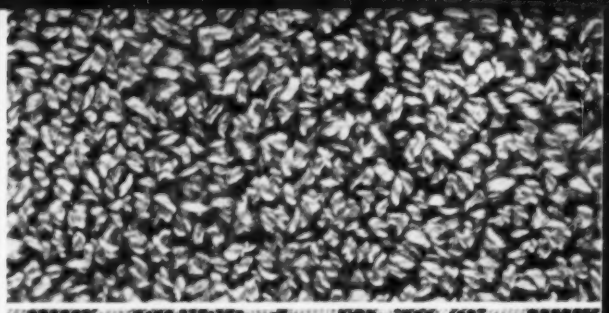

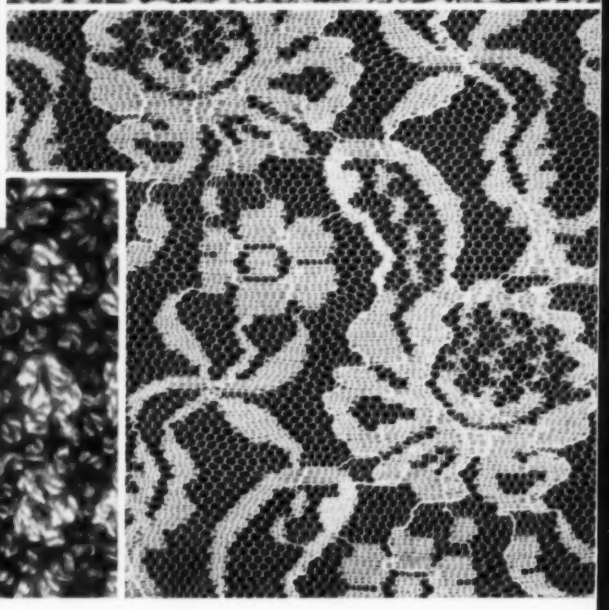

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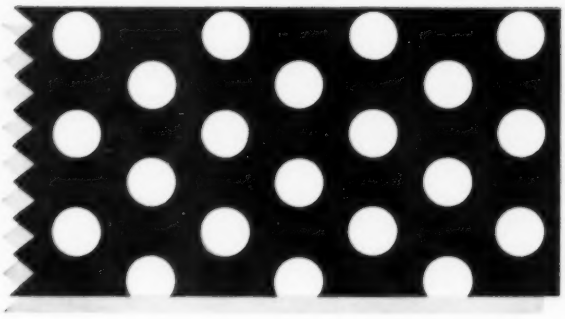

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Bright reds and yellows, deep rich navies, browns, wines and blacks either too difficult or expensive to achieve with other dyes are simply and inexpensively produced with GDC Naphthols in cotton and rayon, in pad, jig or continuous systems. Acetate, Dacron* and nylon may be dyed by special processes.

Naphthol colors are fast to washing, light, chlorine, alkali and cross-dyeing. Many Naphthols are used as ground colors for discharge printing where wash- and light-fastness are required.

A complete range of highly soluble Naphthol Powders are available. However, for greater economy in high-speed, large-volume operations the prepared liquid Naphtholate AS Solution brands are generally preferred.

The Fast Color Salts and Bases used for development are reliably uniform from batch to batch and most are nondusting for cleaner handling.

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*Polyester fiber of E. I. du Pont de Nemours & Co. (Inc.)

*From Research to Reality*

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A SALES DIVISION OF

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Naphthol Dyes manufactured by the General Aniline and Film Corporation are sold outside the United States under the trademark "Fenaphtol."

# Let's not clean away dollars and man-hours with costly, inadequate floor care

## MECHANIZE *your floor-cleaning with a* COMBINATION SCRUBBER-VAC!

(Powder Dispenser and Level Cable Wind are accessories)

Wherever *combination-machine-scrubbing* is the practical solution to the floor-cleaning problem, any lesser, slower method is wasteful of money and manpower. A *Combination Scrubber-Vac* applies the cleanser, scrubs, flushes if required, and picks up (damp-dries the floor)—*all in one operation!* Maintenance men like the convenience of working with this single unit . . . the thoroughness with which it cleans . . . and the features that make the machine simple to operate. It's *self-propelled,* and has a *positive* clutch. There are no switches to set for *fast* or *slow* — slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs quietly. Cable reel is self-winding. *Finnell's 213P Scrubber-Vac* at left, an *electric* unit for heavy duty scrubbing of large-area floors, has a 26-inch brush spread. Cleans up to 8,750 sq. ft. per hour (and more in some cases), depending upon condition of the floors, congestion, et cetera. (The machine can be leased or purchased.)

*Finnell* makes *Scrubber-Vac Machines* in a full range of sizes, and *gasoline* or *propane powered* as well as *electric* models. From this complete line, you can choose the size and model that's exactly right for *your* job (no need to *over-buy* or *under-buy*). It's also good to know that *a Finnell Floor Specialist and Engineer is nearby* to help train your maintenance operators in the proper use of the machine . . . to recommend cleaning schedules for most effectual care . . . and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1311 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

**FINNELL SYSTEM, INC.**

*Originators of Power Scrubbing and Polishing Machines*

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

# Knitting Section

*An easily made device, a dual yarn positioner*

## *Stops misfeeds on SCOP machines*

by Winston Shewmake

Exclusive

THE yarns which twist into a rope and back up to the yarn feed fingers on Solid Color Overplaid machines will cause misfeeds at the throat plate if some means of positioning these yarns down is not provided. This is the case especially when the patterning yarns try to enter the leg immediately after the top has been completed.

Misfeeds are, and have been, more common on the left (auxiliary) side than the right. A yarn positioner similar to the one shown in Figure 1 is standard equipment

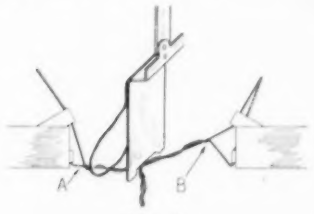
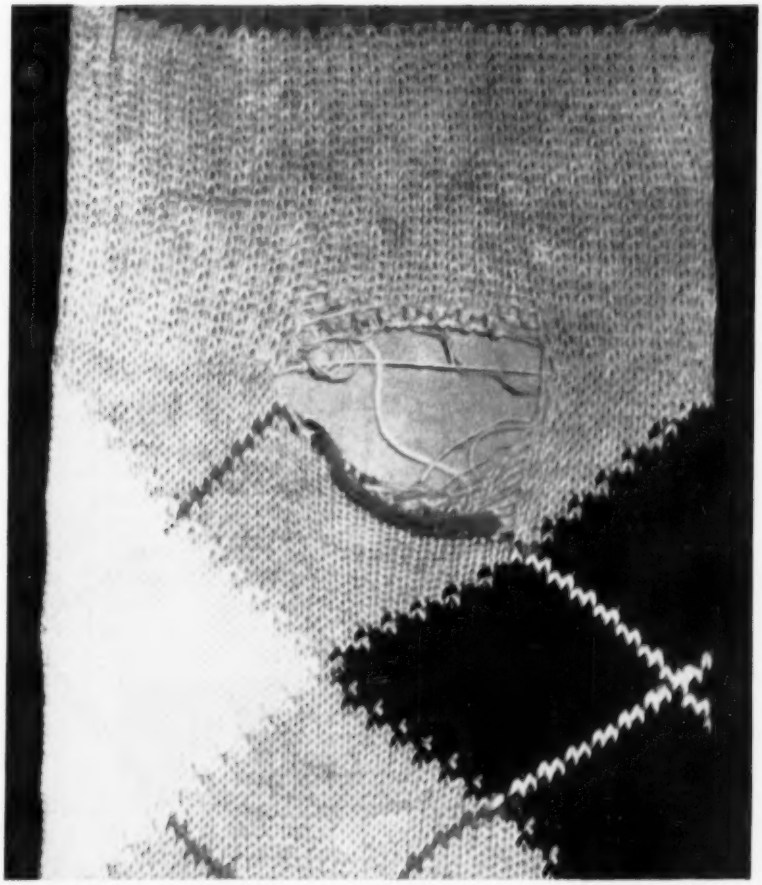



Fig. 1

and will position the yarns to the left and at the center. This type of positioner will work satisfactorily on the simple patterns and where



New and different styles and types of top construction may cause misfeeds (result shown here) if a dual feed positioner is not provided.

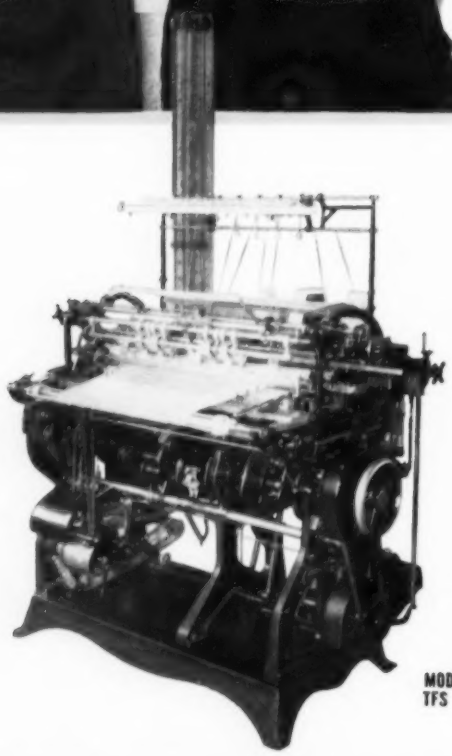
# The accent is on *quality* fabrics

Whether it be full fashion or plain interlock, fabrics made on Wildman Jacquard knitting machines are "distinctively different" in quality and appearance.

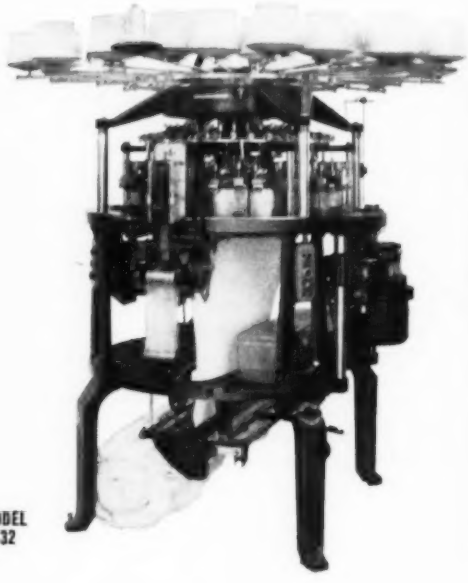
The "TFS" 30″ single section full fashion machine permits increased production, multiplicity of sizes to be run simultaneously, less downtime and greater ease of operation.

The model "AI" 32″ diameter 32 feed "single purpose" circular interlock machine (rib type) produces a larger, more serviceable piece of true interlock fabric.

**For knitting versatility... production and quality — specify WILDMAN JACQUARD knitting machinery**



MODEL TFS



MODEL AI-32

# WILDMAN JACQUARD

A subsidiary of Draper Corporation, Hopedale, Mass.

*For complete information, write:*

**WILDMAN-JACQUARD CO.**
**1210 Stanbridge St.**
**Norristown, Pa.**

*. . . Leading manufacturers of fine knitting machinery*

there is a balance of yarns on each side.

However, different styles and types of top construction will necessitate a positioner of different design; namely, one that will position the yarns not only on the left feed but also on the right feed.

This is especially true where "Tip-Tops" are produced because yarns are pulled high on the right side (as shown at point B Figure 1), and needles will pass under the yarns without knitting up the yarns. A more desirable situation is shown in Figure 2 where both the left and right feeds are being positioned to the proper level to be picked up by the needles.

To make a "Dual Positioner," proceed as follows:

(1) Remove and discard the present positioner (Figure 1).

(2) Drill a No. 11 hole into the bottom of the yarn positioner slide ¼" deep (H, Figure 3).

(3) Cut a rod 3/16" in diameter to a length of 1½" (P, Figure 3).

(4) Cut a 3⅛" length of ⅛" x ½" cold roll steel (B, Figure 3).

(5) Drill a No. 11 hole in the center of the steel base.

(6) Cut two wires (approximately 1/16" diameter) three and one-half inches long (W, Figure 3).

(7) Weld post P to base B; weld wires W to the end of base B; weld post P onto slide S and into Hole H.

(8) Bend 1¼" of the wires up at approximately sixty degrees from horizontal (Figure 3).

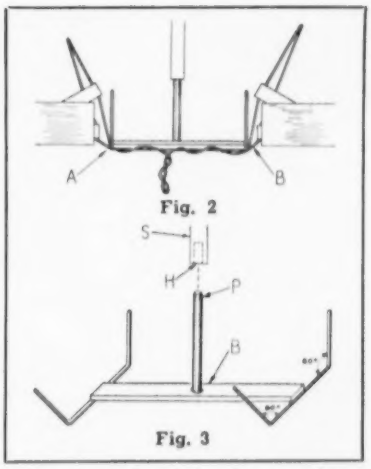


Fig. 2

Fig. 3

## Use the 3 official warp knit whites

■ IN AN EFFORT to eliminate the confusion existing in the knit goods manufacturing industry on white fabrics, the Warp Knit Manufacturers Group of the National Federation of Textiles, Inc., has issued an official white color card.

Knitters, dyers, cutters, sellers, jobbers, and converters of tricots, Raschels, laces, nets, tulles, ribbons, and trimmings are urged to use the card which contains actual fabric samples of the three standard whites—Snowhite, Starwhite, and Cloudwhite.

"It is a tool which, if used by all of us at all times, will tremendously simplify the handling of all white merchandise," Gilbert Cohn, chairman of the group's color card committee, said.

Dye formulas for the three basic shades of white are as follows, according to information received from the Federation:

**On Chemstrand 670 40-denier dull yarn**
**Cloudwhite—1½% Dergopal D**
**Starwhite—2⅛% Dergopal D**
**Snowhite—4% Dergopal D**

Note: Dergopal D is a product of Arkansas Co., Inc.

## Results of first circular hosiery machinery survey made available

■ HOSIERY mills in North Carolina have 53 per cent or 46,838 of the 88,364 circular hosiery knitting machines in the United States. Second to North Carolina is Tennessee with 13.8 per cent or 12,169, followed by Georgia with 8 per cent or 7,112.

These and many other useful data on the circular knit goods branch of the industry are contained in the recently published results of a survey conducted by Morris Speizman Co., Inc.

In the foreword to his booklet, which is entitled "Survey and Analysis of Circular Hosiery Machinery in the U. S. A.," Morris Speizman, president of the company having his name, said: "Our purpose in collecting this information was, to paraphrase an old proverb, 'Know the truth, and the truth shall make you free'—free to decide on your future course in the industry."

Only the mills whose products reach ordinary markets for men's, women's, boys', misses', and children's hose were asked to participate in the survey, Mr. Speizman said. Of the 445 hosiery manufacturing firms which the survey figures include, data for only 21 of them were "estimated," according to Mr. Speizman. The remaining 421 reports were received "over the signatures" of the mill owners.

Following are other facts abstracted from the survey results:

(1) There are 41,628 men's hose knitting machines—47.1 per cent of the total number; 22,274 ladies' machines — 25.2 per cent; and 24,462 misses' and children's machines—27.7 per cent.

(2) 85.7 per cent or 75,744 of the machines are in "southern" mills and 9.2% in "northern" plants.

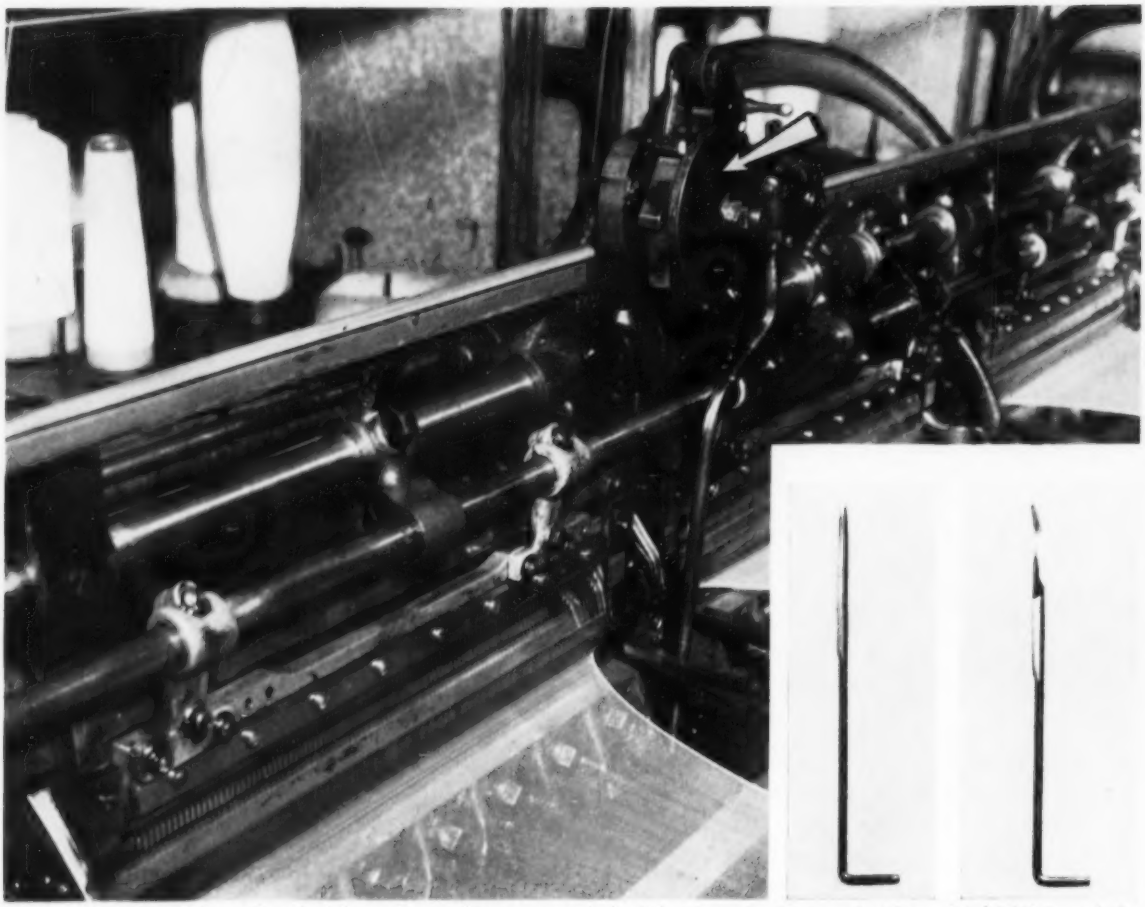
(3) 50.9 per cent of the machines are over 20 years old, 15.9 per cent 13 to 20 years old, 11.4 per cent 6 to 12 years old, and 18.8 per cent 1 to 5 years of age.

(4) Average running time during 1956 of the 41,628 men's hose machines was approximately 1.25 shifts of 40 hours per week for 50 weeks.

(5) To produce the 14,604,000 dozen pairs of ladies' nylon seamless hose during 1956, these machines had to operate on a 3-shift basis for 52 weeks during the year.

(6) Average running time during 1956 for the children's hose machines was 1.096 shifts of 40 hours per week for 50 weeks.

It was emphasized that the averages given in items 4, 5, and 6 above are statistical rather than actual.



Picot bars are actuated by ratchet wheel (arrow) every third course, to lock stitches, instead of operating twice a set, as on plain work.



Nonrun picot bar point (right) is made by grinding away half of regular point (left).

*Nonrun mesh hosiery is in demand for the export market*

# "Here's how we knit

by C. R. Hailey
*President*
*M. & H. Hosiery Mill*
*Rock Hill, S. C.*
and
Floyd Pressley
*President*
*Pressley Hosiery Mill*
*Rock Hill, S. C.*

Exclusive

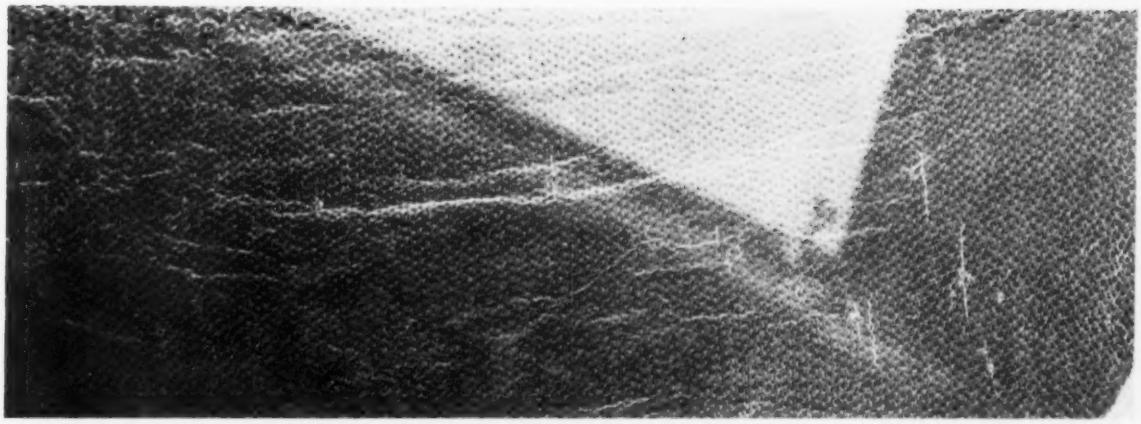
NONRUN stockings of 15-denier nylon in leg and 40-denier in welt and foot made on 45 gauge are in good demand (for export market) because they outwear plain stitch stockings three to one, according to some wear tests.

The mesh effect prevents the hose from sliding down on the leg and provides a clinging characteristic to the stocking. Although the mesh effect is visible by close observation, on the woman's leg the mesh effect doesn't show.

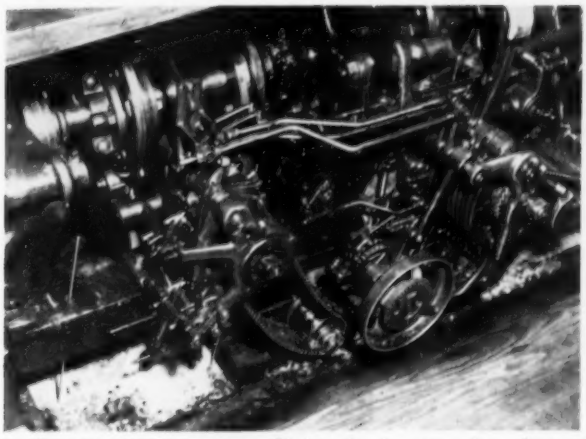
There is a motion on the machine which locks the knitted fabric and every three courses the stitch is locked on the needle by the nonrun points. The nonrun points are like regular points except that one-half of the point is removed.

The 45-gauge stockings appear as sheer as those made on finer-gauge machines, because they are knitted with a large stitch. More air space between threads gives sheer appearance and provides a cooler stocking for hot weather wear. Fine-gauge stockings may be knitted so tightly in some instances that they will hold water.

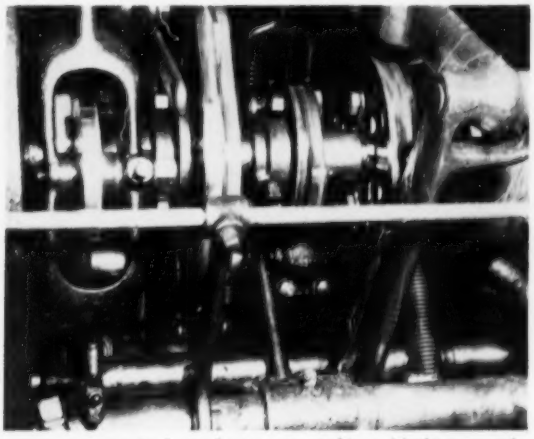
Mills on nonrun work are run-



Note mesh effect of the nonrun hosiery. It prevents the hose from sliding down on the leg, but is not noticeable in use, customers say.



Small auxiliary chain motion is added in the changeover for making nonrun hosiery. Machine speeds are about half those on plain work.



New cams are required on changeover machines. Machine must be set and adjusted; it requires about two weeks for no-trouble operation.

# no-run f-f hosiery"

ning three shifts a day, five days per week. and operating at a profit, although the margin is narrow.

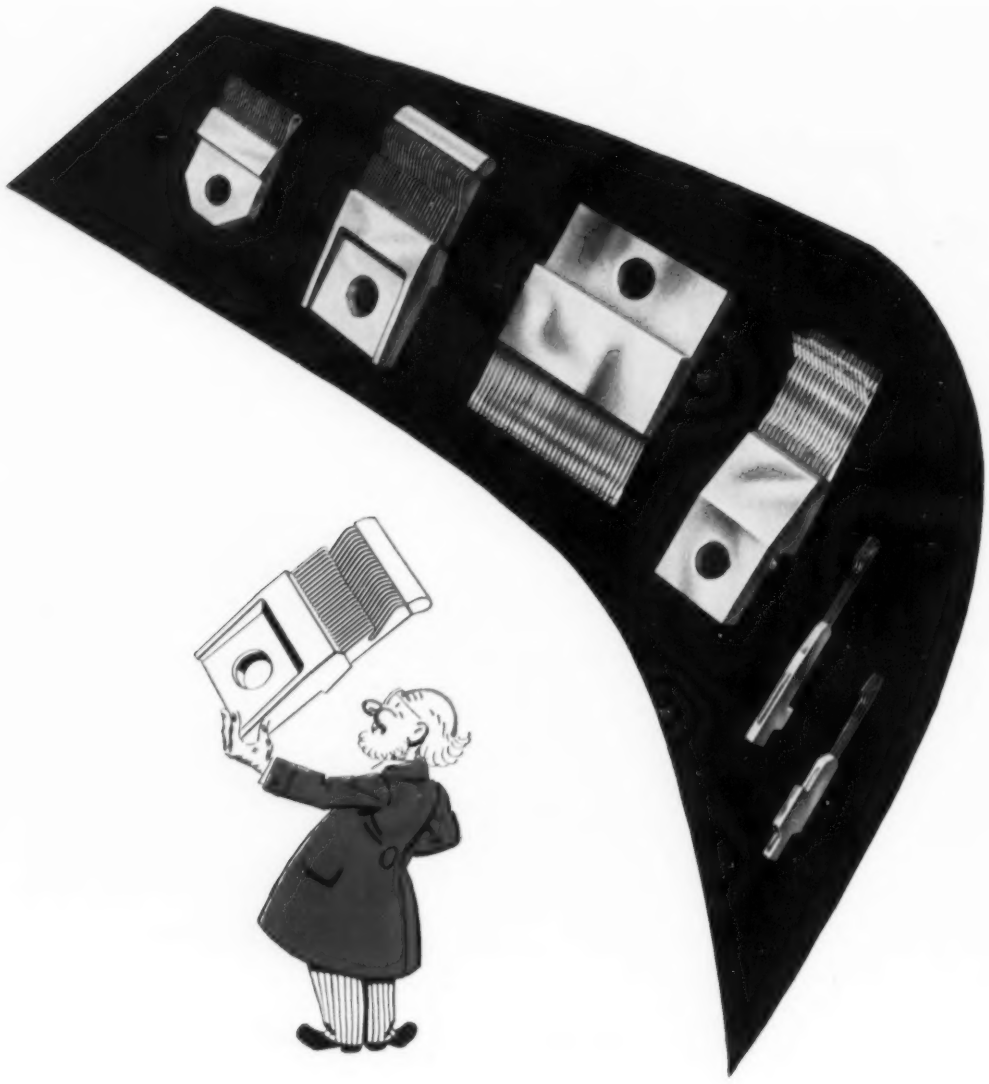
AVERAGE PRODUCTION per machine in eight hours is eight dozen, over-all. One man runs two machines and makes 15-16 dozen in eight hours. All of the production is supposed to be good work, but about 5% has to be mended. There is about 2% waste.

The 45-gauge machines used in this instance are not so sensitive to temperature change as finer-gauge machines and maintain their settings. This style of stocking is reputed to make more bad work than plain stockings. The amount of waste is largely controlled by the knitters, who can keep it at low level by close observation because the machines run at about half speed

The picot bar operates every third course; normally on plain work the picot bar operates twice for each set.

The knitter must be on his toes and alert at all times. One fixer's full time is required for two weeks to convert a machine from plain stocking to nonrun fabric by installing about $1100 in parts, which are available from Textile Machine Works.

Parts needed include small auxiliary chain motion, new chain, ratchets, nonrun points in picot bar, and cams. Then it is necessary to set the machine and adjust it to run correctly. It takes about two weeks to get set for no-trouble operation. The same operations are necessary as those required to adjust any plain knitting machines.



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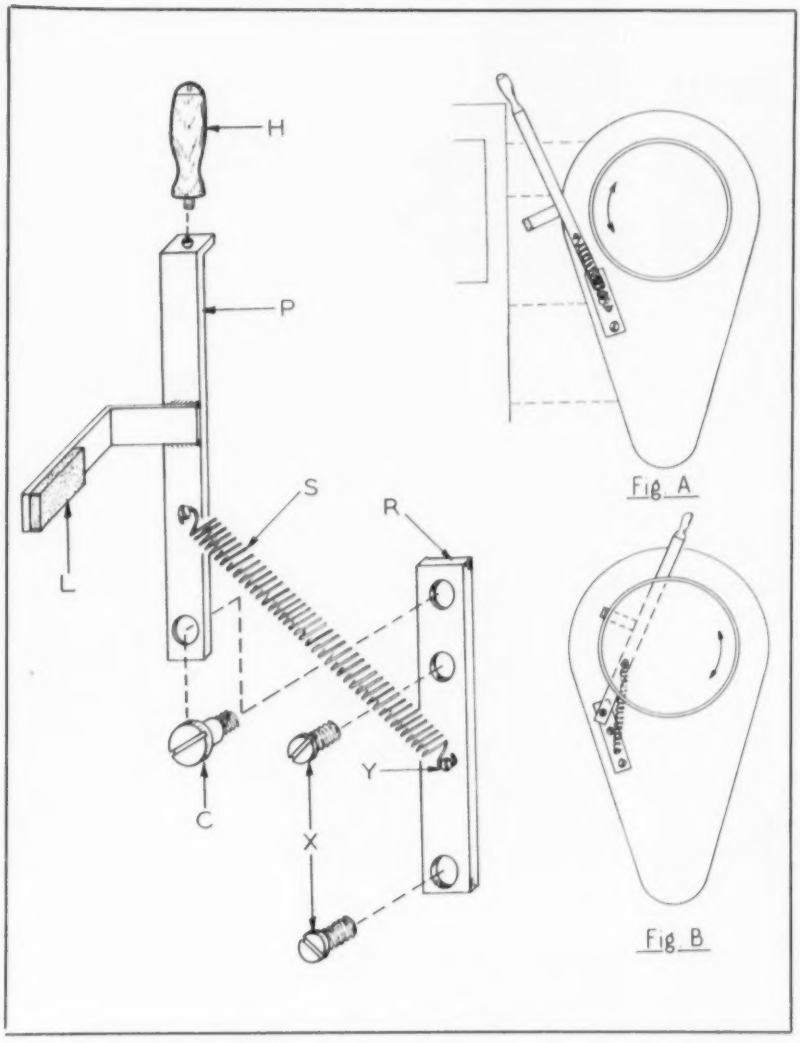



Fig. A

Fig. B

# Mill-made Brake For Dyeing Machines

*protects personnel and prevents damaged goods*

by Frank Paul
Exclusive

DYE TUB operators who have trouble with rotary dye tubs turning before power is applied (due to heavier loading on one side) will find a toggle brake very useful, as well as a safety feature on their tubs.

Occasionally one of our dye tub operators gets his arm caught during one of these "inertia" revolutions; or the tub, seeking a bottom dead center, dumps a load of socks between the tub and the tank. First we tried placing a stick between the two drive gears. This worked fine one way, but if the tub turned backwards, stick, socks, and all got in the tank causing considerable trouble.

One of the fixers in our plant came up with a simple toggle brake which works well.

The assembly comprises a handle (H) (see Fig: 1) screwed into a piece of ⅛" x ½" cold rolled steel approximately seven inches long. Another similar piece is welded onto this post (P) and bent 90 degrees. A leather brake shoe (L) is riveted onto this piece.

A No. 21 hole is then drilled into the lower end of post (P) to accommodate shoulder screw (C) which passes into threaded hole at upper end of retainer (R). Smaller screws serve as spring (S) connectors between the post (P) and retainer (R).

Two No. 11 holes are drilled into the retainer as shown, and screws (X) secure the retainer to the drive cover of the tub.

Figure A shows the toggle brake in the off position, the handle resting against the tank, being held there by spring pressure to the left of the T.D.C. position.

Figure B shows the toggle brake shoe resting against the flywheel, and spring pressure is being applied to the right of the T.D.C. position. The flywheel is thus prevented from turning, and this in turn prevents movement of the tub when power is off.

*Short cuts for half-hose men developed at Chipman-Lacrosse Hosiery Mills*

# Try these time-savers

Staff prepared—Exclusive

MANY hosiery mills agree that it is hardest to find goods for each order in the boarding department when running half hose. At Chipman-LaCrosse Hosiery Mills, East Flat Rock, N. C., this problem was solved by attaching tickets to dye lots and removing the stubs, which are filed in the boarding department in a wall rack so goods can be located

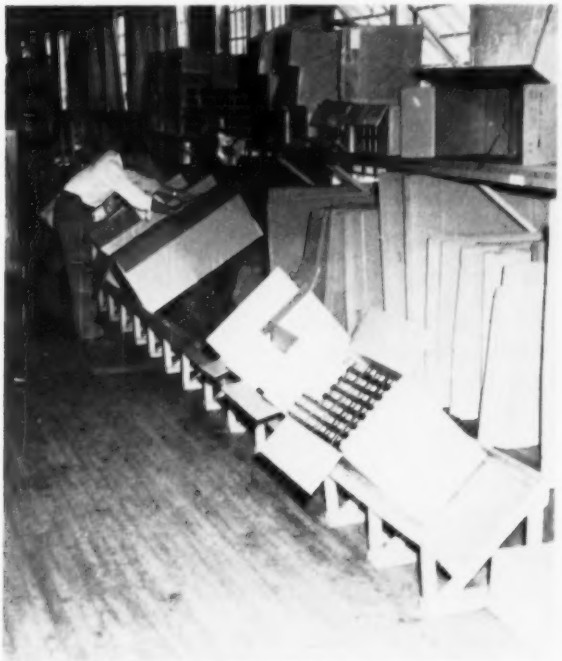
Storage facilities use overhead space and are arranged to accommodate maximum stock in minimum space and for easiest access.

Soiled goods are washed in a domestic washing machine as soon as they are found soiled. Socks are put back in lot to eliminate shortages and delays in filling orders.

Tickets are attached to dye lots, and the stubs are filed in a wall rack so goods may be located easily in boarding room.

Sizes of socks in storage are readily ascertained since tray border colors match those of rubber bands in right photo below.

Sample cards show sock and details of construction and color for quick reproduction on reorders.



Packing troughs are elevated and tilted to assure optimum position for quick and easy packing.

Rubber bands of different colors serve to distinguish different sizes of socks in process.

. . . a touch that is glorious beyond anything you have ever known—a refreshing, delightful, *skin-compatible* fiinish that makes fabrics soft and smooth and *soothing!*

LANOLIZED is the original, genuine cosmetic-like finish that truly introduces pure USP-grade cosmetic lanolin into and onto every fibre of the fabric for incomparable comfort and eye-appeal.

If your lingerie resource is not yet licensed to offer you fabric LANOLIZED, write us for names of those who are . . .

LANOLIZED is a registered trade mark

Other LANOLIZED products in the field of women's wear include Girdles, Corsets, Brassieres, Negligees, Blouses, Hosiery and Gloves . . .

SCHOLLER BROTHERS, INC.

PIONEERS IN THE BETTER FINISHES THAT MAKE THE BETTER FABRICS...SINCE 1907

Authorized Manufacturers and Distributors of LANOLIZED—The Miracle Finish. Collins & Westmoreland Sts., Philadelphia 34, Pa. IN CANADA: Scholler Bros., Ltd., St. Catharine's, Ontario.

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# LENGTH CONTROL

## with Yarn Tensioner and Compensator*

- Easily installed in minutes
- Permits use of new free-running pirns
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- No wearing parts—no maintenance
- Completely self contained
- Tension adjustable in 1/10 gram increments
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Fidelity has the answer . . . and another "first" in a distinguished line of advanced achievements in ***seamless*** knitting equipment.

Years in development . . . the result of exhaustive tests at mills throughout the country to produce a single, compact attachment which assures precise ***seamless*** stocking length with automatic yarn tensioner *and* compensator! The Fidelity Length Control Yarn Tensioner and Compensator offers a combination of design and performance features unequalled by any similar device on the market today.

*Patent Pending

ONLY FIDELITY GIVES YOU LENGTH CONTROL *PLUS* YARN TENSIONING AND COMPENSATING—at a fraction of the cost for other length control devices *alone*! Contact Fidelity now for early delivery.

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**HE'S IN PARADISE** because he's found out he can get the right needle for any sewing operation. Whether you require needles for sewing, knitting, felting or tufting, you'll want to celebrate, too, once you see how easily all your requirements are met by **THE TORRINGTON COMPANY.**

*Torrington, Conn., U. S. A. Branches in New York, Philadelphia, Boston, Chicago, Greensboro, St. Louis. Pacific Coast Representative: E. G. Paules, Los Angeles*

Horseshoe-shaped table with built-in bag racks helps expedite preparation of dye lots, saves time.

Boarding forms have clips to hold nylon socks to correct length for preboarding, thus assuring more uniformity.

easily. As the work is removed from the boarding department, the stubs are removed from the wall filing rack to keep the file current at all times.

The ticket stubs are kept in groups according to the type of goods represented, and the stubs are matched to the tickets on the truck when the goods leave the boarding room (see accompanying illustrations).

Among other expedient production methods used at this mill, soiled goods are washed in a domestic model washing machine as soon as the goods are found soiled, instead of holding them back for a large batch to accumulate. After the soiled work is washed, the socks are put back into the same lot from which they came. This procedure eliminates shortages, which might delay shipment of any lot in which soiled goods are found.

Different color rubber bands are used to indicate different sock sizes. The bands are put on at a table where dye lots are made up. The table is somewhat novel, and is a time-saver too. Shaped like a horseshoe, the table has a rail attached to the outer edge, and dye bags are attached to the rail while goods are sorted on the table. After sorting, the socks are simply raked into the dye bags with a minimum of effort and trouble.

Knitting tickets have the same color scheme as the rubber bands throughout all processes, including pairings, inspecting, and storage. Hosiery trays have the same color code on the border to match the size code for socks in process.

Storage facilities are arranged to accommodate a maximum amount of stock in minimum space and for easiest access. Overhead space is used effectively by pyramid-shaped storage racks, which conserve aisle space. A mobile ladder is located on each side of the storage racks. The ladders are mounted on rails and may be moved quickly to any location to retrieve stock in filling orders.

Packing troughs are elevated to reduce operator fatigue in packing boxes. The trough tilts the boxes in such a way that the job of packing is made much easier and more convenient. This arrangement saves considerable time and has served to increase production in the packing department.

A standard filing cabinet is used to keep a complete record of each style made in this mill. Sample socks are mounted on a letter-size piece of cardboard, and all pertinent details of construction and color are recorded there. Reorders are filled quickly by referring to samples on file.

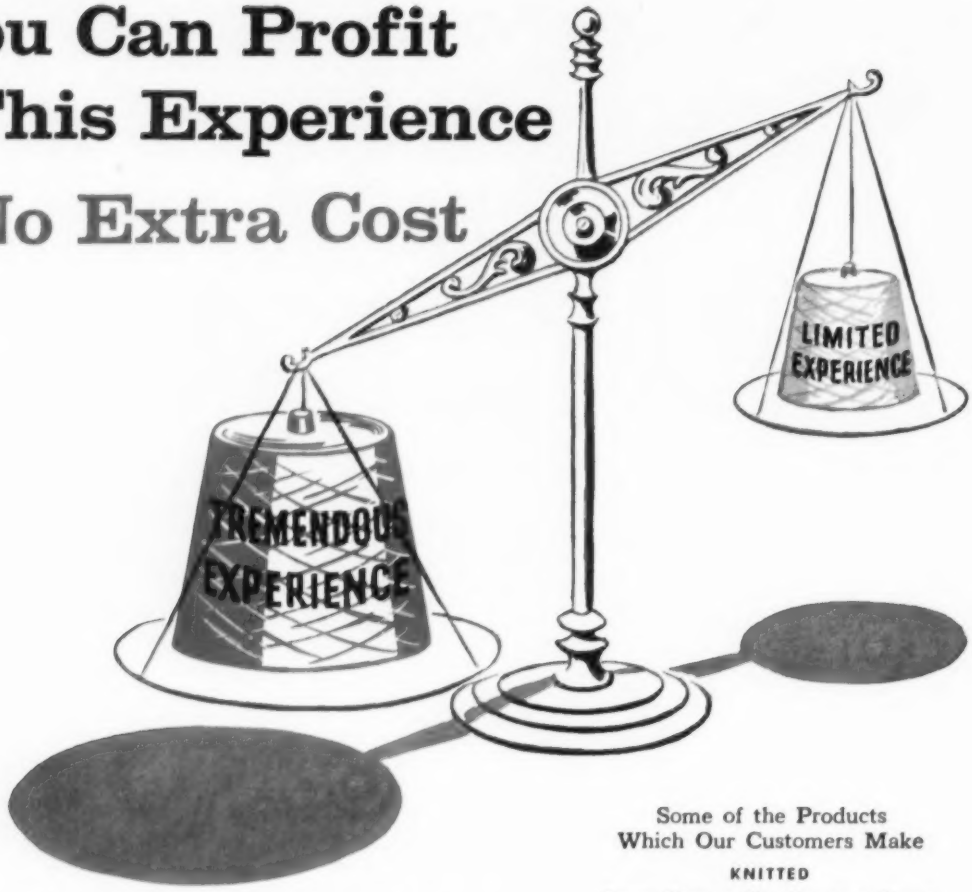
## Fiber recovery *(from page 155)*

travel. This would cause ends to break back in the creels, and to wrap around the drawing, fly frame, and spinning frame rolls.

The writer has not had the opportunity to check this more than the one time for actual ends down. However, one could tell when rayon with a high recovery index started through the mill by the increased number of ends down.

One cannot have his cake and eat it too, because resilience in fibers is very desirable, especially in the making of carpets, sweaters, etc. However, there is only so much resilience that can be put into a fiber in order for it to be processed economically.

# You Can Profit By This Experience At No Extra Cost




EACH YEAR we supply a great variety of colored yarns to over 500 manufacturers in more than 30 different industries. The fibres that we dye and some of the products that our customers make are listed herewith.

*You* can profit by this experience, and the know-how it has given us, at no extra cost. For instance, we can advise you on the best type of dye for the purpose, fashion trends in colors, the best method of rewinding from Franklin Packages (if you do your own winding), the best yarn put-up, the proper yarn conditioning, correct finishing procedures and the best way to handle dye lots in the mill.

Since it costs you no more, why not take advantage of the *extra* service that our 5 strategically located plants can give you?

Some of the Products Which Our Customers Make

**KNITTED**

Sports Wear • Slip Covers • Gloves Underwear • Hosiery • Trim • Wash Cloths • Swimwear • Foundation Fabric

**WOVEN**

Shirtings • Dress Goods • Industrial Fabrics • Narrow Fabric and Webbing Wool and Worsted Suitings • Drapery and Upholstery Fabrics • Automotive Trim • Elastic Fabrics • Toweling Sheetings

**MISCELLANEOUS**

Shoe Laces • Bag Goods • Rick-Rack Rubber Covering • Braided Carpets Sewing Thread • Wire Covering Novelty Yarn • Tufted Textiles Surgical Products • Elastic Braids

**DYERS OF**

COTTON (Carded, combed, mercerized) • ORLON* (yarn and tow) ACRILAN • DACRON** • BAN-LON® HELANCA • SPUN NYLON • SPUN RAYON • BLENDS • WOOL and WORSTED

Franklin Process

YARN MERCHANTS AND LARGEST PACKAGE DYERS IN THE WORLD
DYEING EXCLUSIVELY ON THE FRANKLIN SPRING

Providence • Philadelphia • Greenville • Chattanooga • Fingerville, S. C.
*New York Office* — 280 Madison Avenue

*Dupont's acrylic fibre.
**Dupont's polyester fibre.

# Early start of wool-use research program urged; objectives cited

■ WOOL utilization will increase significantly in the United States in future years provided a research program recommended by the Wool and Mohair Task Group is implemented soon and at full scale, Dr. Gerald Laxer, director of science and technology of the Wool Bureau, declared recently.

Dr. Laxer said that any significant increase in the utilization of wool in the mills is mainly contingent on these two factors:

1. Improvements in the efficiency and capacity of wool production so that more and higher quality domestic wool becomes available at prices more competitive with other fibers.

2. Reductions in the manufacturing costs of wool products coupled with new and/or improved performance characteristics and styles in the end products.

He added that if these primary conditions are satisfied, it would still be necessary in order to secure increased utilization to expand present promotional activities, including intensive education at the school level.

"A fully-rounded utilization research program to increase the use and usefulness of wool is that outlined by the Wool and Mohair Task Group of the President's Appointed Bi-Partisan Commission on Increased Industrial Use of Agricultural Products," Dr. Laxer reported. "The program covers the fields of fleece-, fiber-, and fabric-modification research, product engineering development, and necessary basic research on fabric and machine engineering, and on the structure and behavior of wool from its cellular components down to the architecture of its protein molecules."

The program has the following objectives:

1. To provide wool growers and wool manufacturers with basic information on the level of importance of fiber shape factors—e.g., crimp, diameter and length—in manufacturing efficiency and product performance.

2. To provide manufacturers with information on how to modify wool (chemically and physically) on a commercially feasible basis to yield such desired product characteristics as permanent moth-resistance, permanent shrink-resistance, permanent pleats, higher wrinkle-resistance, and resistance to chemicals and micro-organisms.

3. To provide new and more economical methods for converting raw wool into finished fabrics.

4. To develop more uses (end-products) for raw wool and its waste materials.

# $185.5 million worth of dyes sold in U. S. last year

■ THE UNIT VALUE of the 154.5 million pounds of coal-tar dyes sold in the United States last year was $1.20 per pound, a report recently published by the U. S. Tariff Commission indicates. The quantity sold exceeded the amount produced in this country by nearly 3 million pounds.

Note the following in the accompanying table (from the Tariff Commission's report) which shows by class of application the U. S. production and sales of coal-tar dyes:

1. 31.2 per cent of the dyes sold were vat dyes, 7.5 per cent of which were the indigo type.

2. The direct class of dyes were next, the quantity being 20.7 per cent of the total, followed by Color Index sulfur dyes with 16.9 per cent.

3. The unit value of dyes sold ranged from a low of 27 cents per pound for the sulfur dyes to a high of $1.93 and $1.94 for basic and azoic classes respectively.

Of the 151,575,000 pounds of dyes produced, 108,856,000 pounds consisted of dyes that could be grouped by Color Index number; 28,134,000 pounds grouped by prototype number, and 14,585,000 pounds that could not be included in one of these categories.

It was explained by the Commision that these statistics are reported in terms of commercial concentrations. Also, the average unit values of sales are weighted averages for products which vary widely in unit values and in the quantities sold.

**U. S. Production and Sales of Coal-Tar Dyes, by Class of Application, 1956**

| Class of application | Production | | Sales | | | | |
|---|---|---|---|---|---|---|---|
| | Quantity 1,000 lb | Per cent of total quantity | Quantity 1,000 lb | Per cent of total quantity | Value $1,000 | Per cent of total value | Unit value[1] $ per lb |
| Total | 151,575 | 100.0 | 154,547 | 100.0 | 185,443 | 100.0 | 1.20 |
| Acetate | 5,129 | 3.4 | 5,550 | 3.6 | 9,861 | 5.3 | 1.78 |
| Acid | 13,460 | 8.9 | 14,449 | 9.3 | 22,226 | 12.0 | 1.54 |
| Azoic | 8,073 | 5.3 | 7,014 | 4.5 | 13,558 | 7.3 | 1.93 |
| Basic | 8,076 | 5.3 | 7,085 | 4.6 | 13,766 | 7.4 | 1.94 |
| Direct | 29,720 | 19.6 | 32,030 | 20.7 | 47,993 | 25.9 | 1.50 |
| Lake and spirit-soluble | 6,856 | 4.5 | 6,777 | 4.4 | 8,510 | 4.6 | 1.26 |
| Mordant and chrome | 4,147 | 2.7 | 5,046 | 3.3 | 6,502 | 3.5 | 1.29 |
| Sulfur[2] | 25,642 | 16.9 | 26,044 | 16.9 | 6,953 | 3.7 | .27 |
| Vat, total | 47,969 | 31.6 | 48,305 | 31.2 | 48,897 | 26.4 | 1.01 |
| Indigo | 10,825 | 7.1 | 11,529 | 7.5 | 4,203 | 2.3 | .36 |
| All other | 37,144 | 24.5 | 36,776 | 23.7 | 44,694 | 24.1 | 1.22 |
| All other coal-tar dyes | 2,503 | 1.8 | 2,247 | 1.5 | 7,177 | 3.9 | 3.19 |

1. Unit value calculated on rounded figures.
2. Color Index sulfur dyes only. Other sulfur dyes are included in "All other coal-tar dyes" as they cannot be published without disclosing information received in confidence.

# *Now a 2nd Hi-Torc –* the NEW Gessner 30 Roll Hi-Torc Napper

Field of napping greatly broadened to include greater range and weight of fabrics

Wide acceptance of Gessner's Hi-Torc principle led to this newest napper

Much more nap in much less time

Greater roll torque available under finger tip control

Machine occupies no more floor area than the now-famous Hi-Torc Napper

Adjustable torque-raising action prevents slipped filling

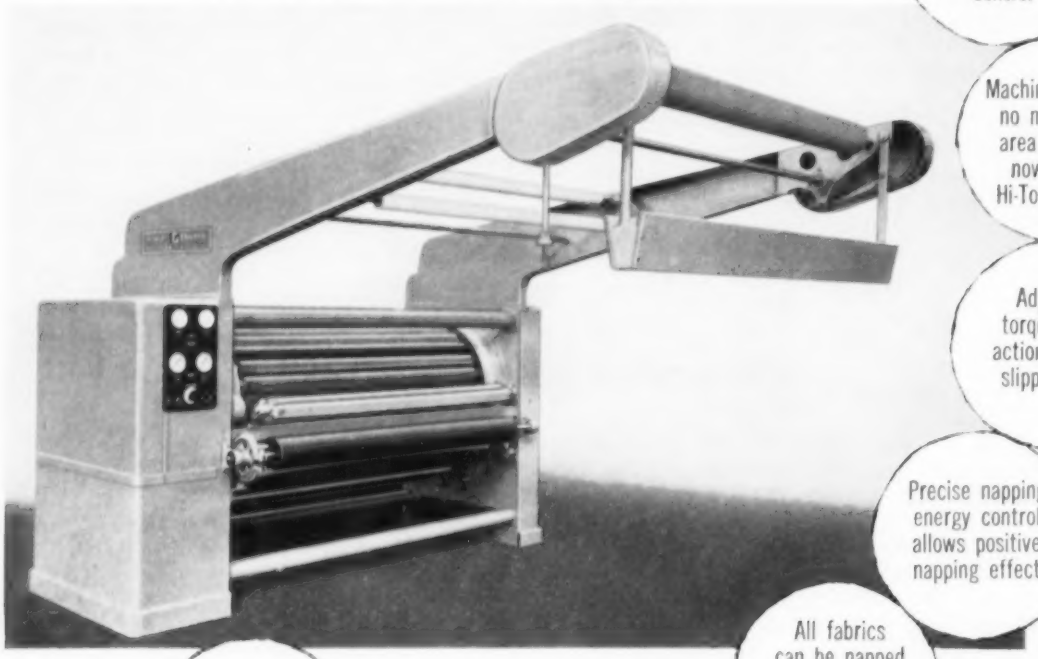
Precise napping energy control allows positive napping effect

All fabrics can be napped with maximum torque raising action

Exact duplication of raising action through hydraulic control system

Breaking, raising and finishing can be done on one machine

Felting action obtained by the simple turn of control knobs.



**DAVID GESSNER CO.**

**WORCESTER, MASS.**

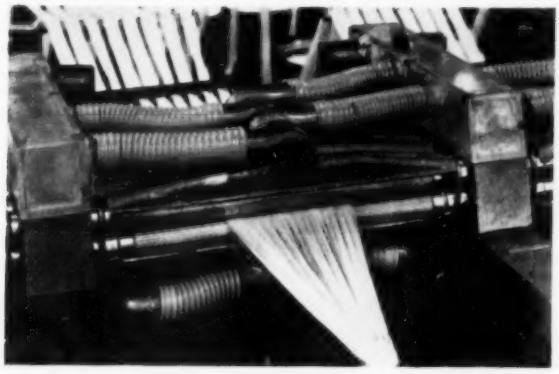
Southern Representative: Richard L. Bernard, 222 Piedmont Bldg., Greensboro, N. C. Western Representative: E. G. Paules & Co., 1762 West Vernon Ave., Los Angeles, California
Canadian Representative: W. J. Westaway, Montreal, Quebec, Hamilton, Ontario

Gessner Improved Cloth Finishing Machines maintain a standard of performance to meet the exact requirements of your cloth finishing.

# NEW EQUIPMENT PARADE

**Machines and Equipment . . . Supplies and Services . . . Dyes and Chemicals . . . Books**

*Please note: Claims made in all of these announcements of new developments are of necessity based upon information furnished by the respective suppliers.—The Editors.*



## Vacuum cleans running drawing rolls

A vacuum cleaning unit for the Feathertouch Drafting System is available. Designed to pick up dirt, trash, and fly from the rolls, the system offers: less staple pick-up (has less than 1% of good staple), permits fewer lap ups, reduces cleaning time by 90%, and minimizes slubs.

Each roll has an individual close-fitting and full length cleaner; each delivery has an individual plastic viewing section for visual observation of performance; and each frame has its individual vacuum system and collector box.

The cleaner is adaptable to existing frames having Feathertouch drafting.

*Ideal Industries, Inc., Bessemer City, N. C.*

**Do you want more data? Write ◆ or use card on page 209; list L-101**

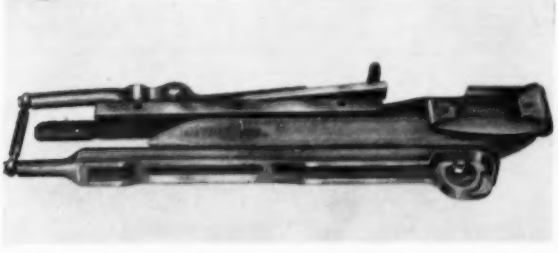
## Throw shuttle straighter, catch it easier

A shuttle box and binder arrangement designed to throw a straighter shuttle and to check it with less wear than is normally done, consists of moving the binder from the rear and controlling it on the front. The Strate-Line Shuttle Control Binder is perfectly flat, and applies a gradual pressure on the shuttle as it enters the box.

A control arm is mounted on the back box plate, and pivoted in the proper place to apply correct pressure between the protector motion and the front control. Because of the constant light pressure applied to the shuttle as it is checked, the box does not heat up noticeably even under high speed running. The back box plate is three times the length of conventional plates.

*H. F. Livermore Corp., Allston Station, Boston 34, Mass.*

**Do you want more data? Write ◆ or use card on page 209; list L-102**



## Pile and velvet shear

A shearing machine which can be adapted to high pile fabrics or velvets by merely changing the complete set of cutting parts is available in 60" and 70" widths.

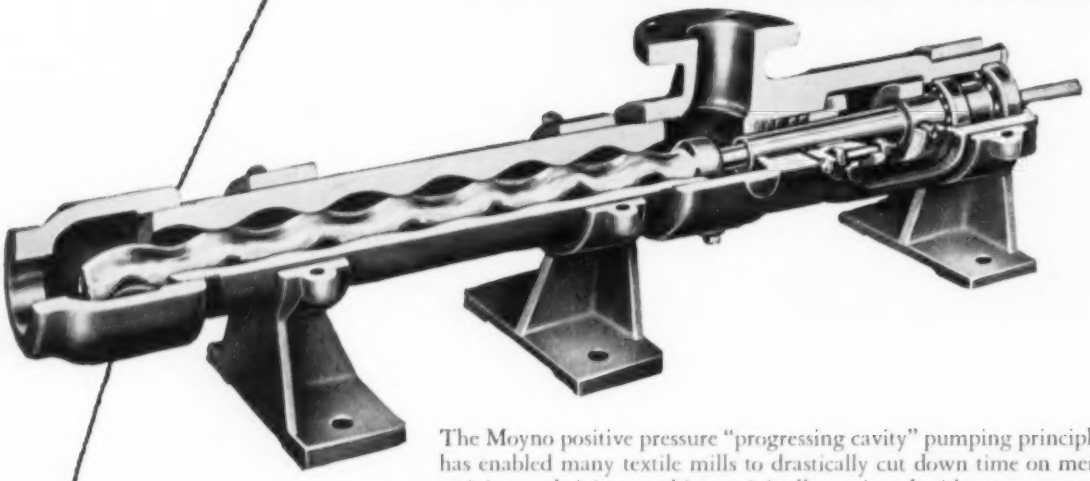
The shearing of high pile fabric having a pile from

⅛" to ½" thick is done with a new type of movable rest and variable speed raising brush over which the fabric passes under even tension at the pre-determined height desired for shearing. This moveable rest, of special design, is shaped so that the pile face, upon reaching the cutting parts under a forced suction draft, has every fiber standing erect at the instant of the cutting operation.

The shear action is a scissors-like one which takes place when each of the twelve file-cut alloy steel tip spirals revolving at 1200 rpm pass across the ledger blade. The angle formed between the revolver spiral, rest and ledger blade is one of 85 degrees, which is considered

*in textile mills . . .*

# MOYNO® PUMPS CUT DOWN TIME



The Moyno positive pressure "progressing cavity" pumping principle has enabled many textile mills to drastically cut down time on mercerizing and sizing machines originally equipped with rotary pumps which wear quickly and lose capacity and suction characteristics. Moyno is the only pump that can satisfactorily handle many caustic alkali solutions without excessive wear, foaming or aerating.

As shown above, Moyno Pumps have a screw-like rotor that revolves in a double threaded stator creating progressing cavities which smoothly move material through the pump. They will pump anything that will move through a pipe . . . even plaster and non-pourable pastes!

Moyno Pumps are available in capacities up to 500 gpm and pressures up to 1000 psi.

Examine your processing methods. No doubt there are several places where Moyno Pumps can drastically cut costs. Ask us, we'll give you a frank answer. Send us an outline of your problem today! Write for Bulletin 30-TI.

**ROBBINS & MYERS, INC.**

SPRINGFIELD, OHIO / BRANTFORD, ONTARIO

Motors · Fans · Hoists · Moyno® Pumps · Propellair® (Industrial) Fans

critical and is controlled by a wheel regulator. This wheel regulator has a numbered dial, so that it is possible to make exact settings which can be duplicated at any time to obtain the same shearing results on the same type fabrics.

Cloth speed is controlled by a variable speed transmission which operates between the speeds of 8 and 24 ypm. The shear is adaptable to tandem operation. (It has been found that tandem operation is sometimes desirable on certain types of synthetic fabrics having considerable abrasive qualities, such as nylon.)

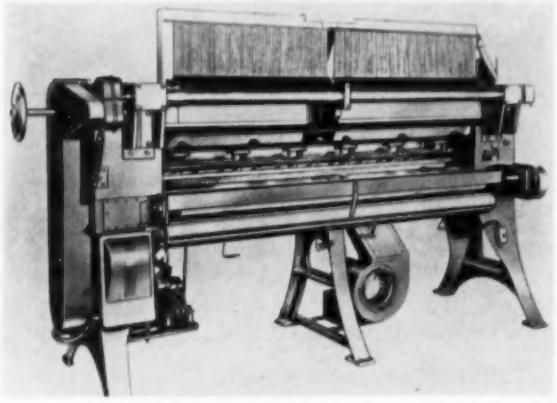
The same basic machine is used for shearing velvets with a change of rests, brushes and cutting parts.

*Curtis & Marble Machine Co., 72 Cambridge St., Worcester, Mass.*

Do you want more data? Write ◆ or use card on page 209; list L-103

## Tufter gives cut and uncut pattern areas

A machine for making throw rugs in contrasting areas of cut and uncut loops is available. The effect is created by having alternate needles set to make loop pile and cut pile respectively. Patterning attachments permit the cut pile to be run at an intermediate height; the loop pile



lower or higher than the cut pile. In the resulting fabric the high loops in the loop pile area cover the cut pile, and the cut pile covers the low loops in the contrasting area.

Containing unlimited pattern possibilities, the alternate cut and loop pile machine has a single needle bar and a single hook bar which holds both loop and butt hooks.

*Cobble Brothers Machinery Co., Riverside Dr., Chattanooga, Tenn.*

Do you want more data? Write ◆ or use card on page 209; list L-104

## Card clothing with rubber "cushion"

Govin card clothing, consisting of a layer of felt, a layer of rubber, and a layer of laminated fabric, offers four advantages: (1) stands up under a greater variety of stock qualities and foreign matter in the breaker; (2) rubber cushion maintains pitch; (3) the wire points will not raise up to damage fibers in the stock or "face up" the wire on rolls that intersect; and (4) requires fewer strippings. Any standard or custom-built card clothing specifications can be furnished with the Govin design felt and rubber cushioning.

*Davis & Furber Machine Co., N. Andover, Mass.*

Do you want more data? Write ◆ or use card on page 209; list L-105

## Makes synthetics as absorbent as natural fibers

A new finish for knitted and woven fabrics of synthetic fibers and blends makes garments produced from them as absorbent, soft, and comfortable to wear as clothing made from natural fibers.

Fabrics given the new finish, which is called "Fabulized," have approximately four times the absorbency of regular finished synthetic fabrics, tests by an independent laboratory indicate. Thus, the perspiration clamminess and the hot, close, uncomfortable feelings associated with wearing nylon hosiery, shirts, blouses, dresses, sweaters, underwear, sleepwear, and other items of synthetic fibers are eliminated.

Also, the finish does not impart a harsh feeling to the fabric; instead, it provides a softening action. Garments finished with the product dry as quick or even quicker than those which have not been treated.

No special mill equipment is required for application of the finish which is being marketed on a licensee basis. For example, in hosiery the finish is added to the dye bath.

*Fabulized, Inc., 517 S. Delaware Ave., Philadelphia 47, Pa.*

Do you want more data? Write ◆ or use card on page 209; list L-106

## Full-fashioned sweater boarder

The Heliot Type T56 sweater finishing machine, though specially designed for finishing fashioned garments made on Cotton machines, is suited for boarding all kinds of under and outerwear in cotton, wool, or synthetic fibers. The machine imparts a very soft hand to the goods, gives a "first class" appearance, and does not deteriorate either color or fiber.

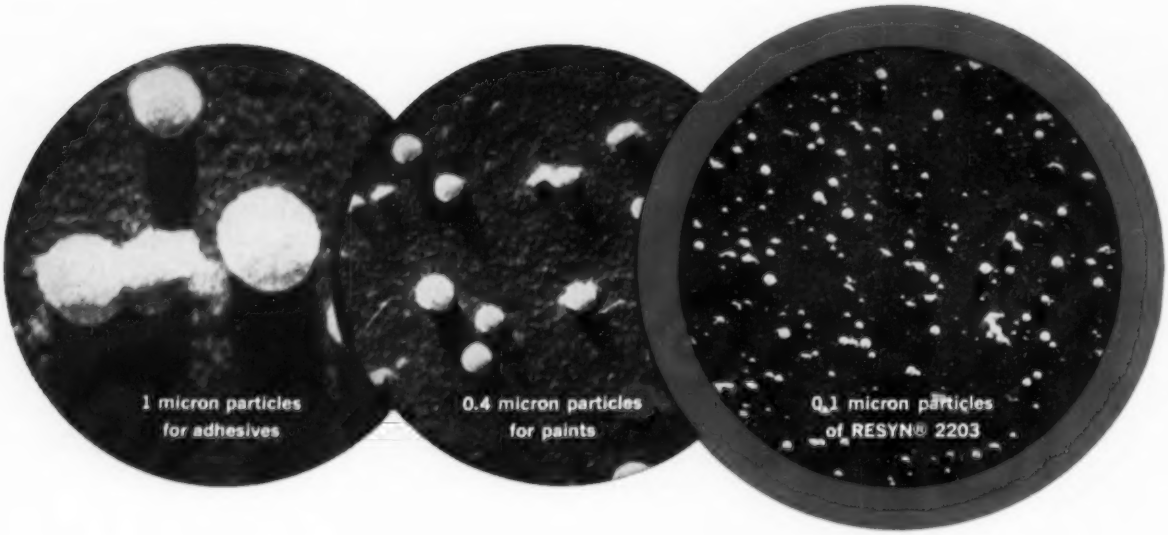
Consisting of an air-tight rectangular steel treatment chamber, a chassis containing forms on which the garments are mounted (this chassis is carried on an outside carriage to allow easy loading and unloading of the chamber), and heating and steaming controls, the machine automatically heats the garments with hot air, steams them under low pressure, evacuates the steam, and reheats the garments by a fresh circulation of hot air, in the order given. A red light signals the operative that the treating cycle has ended, and the garments are ready for removal.

The treatment chamber is equipped with a quick-locking door which provides an air-tight seal against heat loss. A heating battery is housed in the top of the chamber; three exhaust valves located in the bottom of the chamber permit the circulation of hot air and the sealing

NEW FOR TEXTILE FINISHES

# VINYL-ACRYLIC

COPOLYMER LATEX




## a further refinement in particle size

RESYN 2203 is a new vinyl-acrylic latex with particles that average 0.1 of a micron in size. Many times smaller than those of vinyl acetate emulsions.

This refinement in particle size greatly increases surface area. As can be seen from the microphotographic comparison. Greater binding power results. Film clarity increases. Water resistance also improves.

RESYN 2203 is internally plasticized. Films are glossy and exhibit good strength and flexibility. Some promising uses: textile finishing, leather finishing, binder for nonwoven fabrics. Like to investigate? Write for a sample and data sheet.

**RESIN DIVISION**

National

**STARCH PRODUCTS INC.**

270 Madison Avenue, New York 16 • 3641 So. Washtenaw Avenue, Chicago 32 • 735 Battery Street, San Francisco 11

of the chamber during steaming.

A high-powered fan circulates the air inside the chamber to assist in the rapid heating of the garments. An electric control system governs the automatic cycle of treatments; and time switches permit the exact adjustment of the various operations required for this treatment.

The machine will treat 80 long-sleeve articles, or 180 short-sleeve articles per hour. A still larger production of underwear such as slips or trunks is customary.

*Specialty Manufacturers and Sales Co., P. O. Box 235, Acworth, Ga.*

**Do you want more data? Write ◂ or use card on page 209; list L-107**

## Lab padder duplicates big brother's work

A three-roll laboratory padder, operating on an 80 psi air source, duplicates the results of full-size production machines. Available now, the machines are equipped with three 4" (diameter) x 18" ball bearing pressure rolls which are optionally available in rubber, neoprene, Hycar, or stainless-steel construction; a stainless-steel two-compartment immersion tank which allows either single or double dip before each nip; extended neoprene side drain tubes with shut-offs; stainless-steel wind-up and let-off bars for handling test samples from roll to roll if desired; a direct-coupled mechanical variable speed drive of 2 to 20 ypm speed range driving the middle roll; a panel-mounted "Start-Stop" switch incorporating motor overload protection; pneumatic loading by low friction cylinders with panel-mounted "Load-Lift" push button valve; air line filter, pressure regulator with gauge; lubricator; and needle bearing mounted lever pivot with pins. The machine is shipped fully wired, piped, and mounted on a steel base.

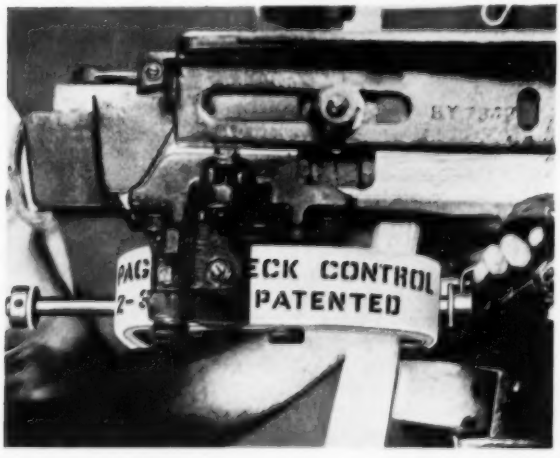
*Birch Bros., Inc., 32 Kent St., Somerville 42, Mass.*

**Do you want more data? Write ◂ or use card on page 209; list L-108**

## Shuttle check with new approach

The Page Check Control for application to several Draper and Crompton & Knowles loom models is designed to position the "control strap" in the same place each time and to check the shuttle the same on each pick.

Once contact with the picker stick is made in the



*Kemp Singeing Head in Action*

**Increase singeing**

**speeds 75% and more . . .**

# Come to Kemp

Kemp Radiant-Flame Compression Singeing equipment can speed up your operation from 75% to 100%. . . drastically reduce costs for labor, maintenance, and fuel . . . and still turn out a *better product!*

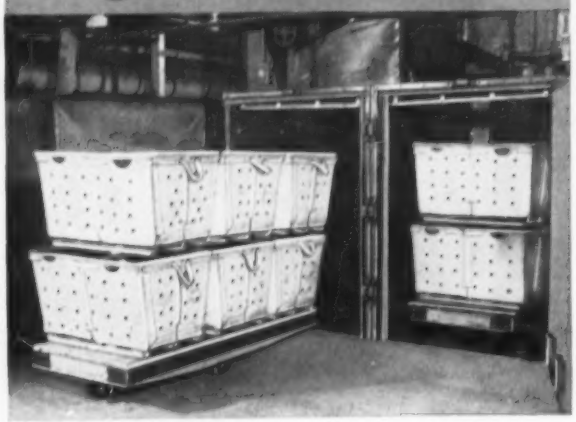
Kemp singeing is a high-speed operation, ideal for modern fabrics. Material travels over burners in a split second; is brushed by a solid mass of flame for a closer, more even singe. The unique Kemp *pre-mix* concept . . . the mixing of oxygen and fuel gas *before* ignition . . . eliminates excess oxygen in the combustion chamber formed by the burner head and rapidly traveling material. Thus, the nap is not burned, but *carbonized* and carried away by escaping combustion gases. The resulting singe is cleaner, faster, and cheaper.

Your Kemp Representative will gladly give you full information and recommendations to speed up your operation. Call him, or write us for Bulletin 6-A. The C. M. Kemp Mfg. Co., 405 E. Oliver St., Baltimore 2, Md.

**KEMP OF BALTIMORE**

for the best in
CANVAS Steaming
and Conditioning Baskets

LOOK FOR Lane



Designed especially for yarn conditioning, this economical Lane Style 34 Steaming and Conditioning Basket incorporates *all* these quality features for *long, dependable service at extremely low cost:*

- Special extra heavy Lane duck body for extra long wear.
- Light-weight, extra-strong, rust-resistant spring-steel frame with sturdy, hardwood bottom *double* riveted with non-rusting rivets.
- Rust-proof eyelets on all sides allow thorough efficient conditioning.
- Reinforced, rivet-fastened handles for safe moving.

STANDARD SIZES AVAILABLE

| No. | Long | Wide | Deep |
|---|---|---|---|
| 1½ | 18" | 14" | 12 " |
| 2 | 22" | 14" | 14 " |
| 2½ | 24" | 15" | 15 " |
| 3 | 24" | 18" | 15½" |
| 3½ | 24" | 18" | 18 " |
| 4 | 30" | 18" | 16 " |
| 4½ | 30" | 18" | 18½" |
| 5 | 30" | 18" | 20½" |
| 6 | 30" | 20" | 20½" |
| 8 | 34" | 22" | 23 " |
| 10 | 36" | 24" | 25 " |
| 12 | 36" | 26" | 27½" |

Lane canvas baskets, hampers, and trucks are *built to take it, built to last!* There are other canvas baskets, but there's only *one* Lane. *Always* look for the *Lane* mark—*to be sure!* Call for our representative. He's a specialist in adapting Lane baskets to your material handling problem. Write today.

*Canvas Basket Craftsmen Since 1894*

Lane

**W. T. Lane & Bros., Inc., Poughkeepsie, New York**


checking motion, contact between the stick and "control strap" is maintained until the power stroke begins. The check reduces Monday morning bang-offs to a minimum.

*Page Belting Co., Inc., Concord, N. H.*

Do you want more data? Write ◆ or use card on page 209; list L-109

## Bulking technique uses core yarns

A technique for manufacturing a range of novelty bulked yarns in which the textured components are separate yarns locked into a high strength core yarn, has been developed. The technique permits a great variety of textured effects, depending on the types of yarn used and the construction and weave of the fabric.

The bulked effects, for example, may be achieved by looping acetate, Celaperm, Arnel or other yarns and twisting them through or around high strength yarns such as Fortisan or Fortisan-36. The fabrics may be woven on plain or box looms, and certain types of the bulked fabrics may be brushed to provide a soft flannel or doeskin appearance. In adapting existing texturizing equipment to the production of these yarns, technical assistance is available.

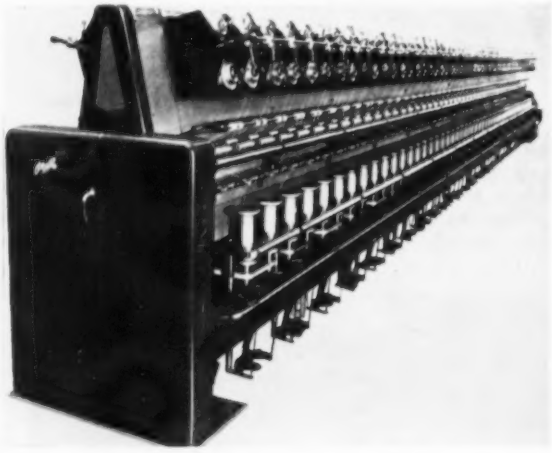
*Celanese Corp. of America, 180 Madison Ave., New York 16, N. Y.*

Do you want more data? Write ◆ or use card on page 209; list L-110

## Combination uptwister—ring twister

The Platt/Bright Twister Cabler produces tire cord from continuous filament yarns in a single operation and with high machine efficiency. A double sided machine built in two decks, it embodies uptwisting and ring twisting principles.

The uptwister ply-twisting spindles are located on the

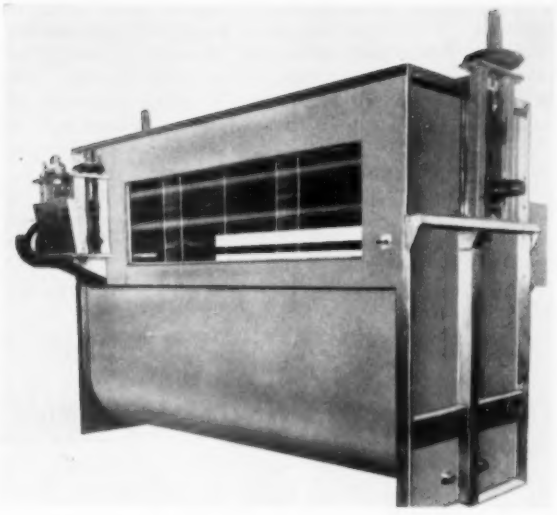


top deck. The ends are drawn from the top deck through flyer eyes, lappets, guides, and delivery rollers to the ring and traveler cabling spindles on the bottom deck, and are wound onto double-flanged delivery bobbins. The machine is available in 9" gauge with 6" or 7" rings.

The twister was developed through the combined efforts of Platt Bros. (Sales) Ltd., and John Bright & Bros., Ltd., and is available to plants in the United States through a domestic supplier.

*Atkinson, Haserick & Co., Inc., Framingham, Mass.*

Do you want more data? Write ◆ or use card on page 209; list L-111



## High speed rope washer saves water

The Washomatic is designed to permit washing or processing cloth of any weight and to maintain any degree of tension automatically. Processing the cloth at high speeds and in rope form, the washer uses a minimum of water.

*Cook Machine Co., Inc., P. O. Box 397, Nashua, N. H.*

**Do you want more data? Write ◆ or use card on page 209; list L-112**

## Desize continuously up to 125 ypm

A machine called "Reactor" has been developed (by the A. Monforts Machine Works of M. Gladbach, Germany) for the continuous desizing of cloth in open width. The time the cloth needs in the reactor is 4 to 6 seconds, which means a cloth speed of 82 to 125 ypm, or up to 180,000 yards per 24 hours. The completely continuous operation makes it possible to eliminate keeping the cloth in steeping bins, steeping boxes, scrays, J-boxes, or on rolls.

The fast treatment is due to the physical construction and properties of the reactor. Desizing is carried out in temperatures of 250 F to 275 F—much higher than those now in use.

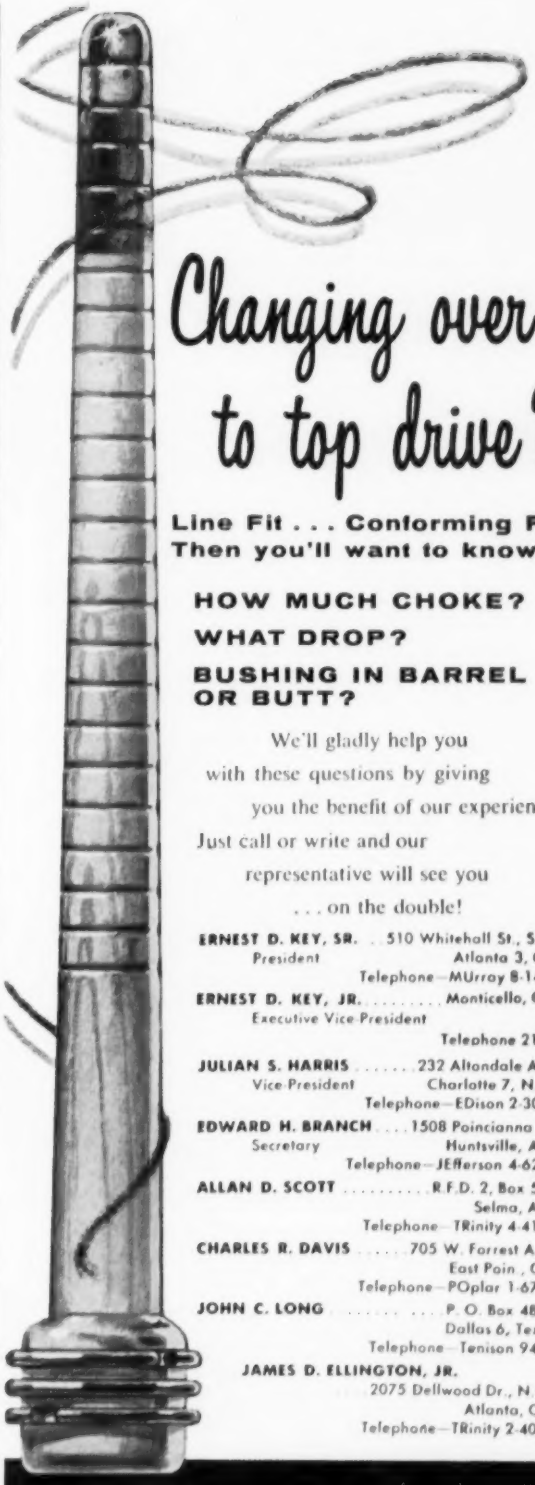
*Cocker Machine and Foundry Co., Gastonia, N. C.*

**Do you want more data? Write ◆ or use card on page 209; list L-113**

## Improved solid-color pattern knitter

The Mosaic Solid-Color Pattern Knitter, Model M-CK, is an improved model of the original Crawford Solid-Color Knitter.

Some of the features of this new machine are: (1) positively controlled shogging clutch—the cylinder can be shogged three needles or any multiple of three needles or a complete revolution, as desired; (2) a needle selector for starting a section of a pattern at any desired position around the needle cylinder; (3) lifter and dropper control means whereby any desired number of needles can be put in or out of action on either side of the pattern area to knit varied shaped solid-color patterns; (4) when changing from one color yarn to another color, both loose

Changing over to top drive?

**Line Fit . . . Conforming Fit**
**Then you'll want to know**

**HOW MUCH CHOKE?**
**WHAT DROP?**
**BUSHING IN BARREL OR BUTT?**

We'll gladly help you with these questions by giving you the benefit of our experience. Just call or write and our representative will see you . . . on the double!

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**ERNEST D. KEY, JR.** Executive Vice President — Monticello, Ga. Telephone 2121

**JULIAN S. HARRIS** Vice President — 232 Altondale Ave. Charlotte 7, N. C. Telephone—EDison 2-3055

**EDWARD H. BRANCH** Secretary — 1508 Poincianna St. Huntsville, Ala. Telephone—JEfferson 4-6204

**ALLAN D. SCOTT** — R.F.D. 2, Box 506 Selma, Ala. Telephone—TRinity 4-4118

**CHARLES R. DAVIS** — 705 W. Forrest Ave. East Poin , Ga. Telephone—POplar 1-6781

**JOHN C. LONG** — P. O. Box 4871 Dallas 6, Texas Telephone—Tenison 9416

**JAMES D. ELLINGTON, JR.** — 2075 Dellwood Dr., N.W. Atlanta, Ga. Telephone—TRinity 2-4083

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This Niro Spray Dryer was built to do a specific job — to remove moisture in processing Kaolin. And to assure years of performance without costly maintenance, this equipment was made from stainless steel.

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Fabricated and erected by Sims Metal Works at Southern Clay Plant, Gordon, Georgia, for Nichols Engineering and Research Corporation, New York City.

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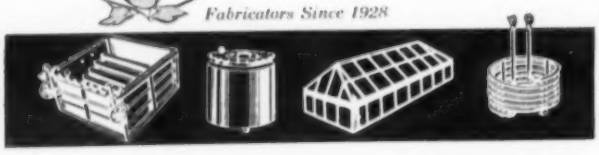
*Fabricators Since 1928*




ends are positively controlled and placed on the inside of the sock by a rotating air device—this eliminates the necessity of trimming loose ends of yarns or picking out yarn that is knit across other colors in the pattern area, because all ends are on the inside of the sock; and (5) automatic yarn release which places all ends of yarn in positive position for the rotating air device to place all the ends of yarn on the inside of the sock.

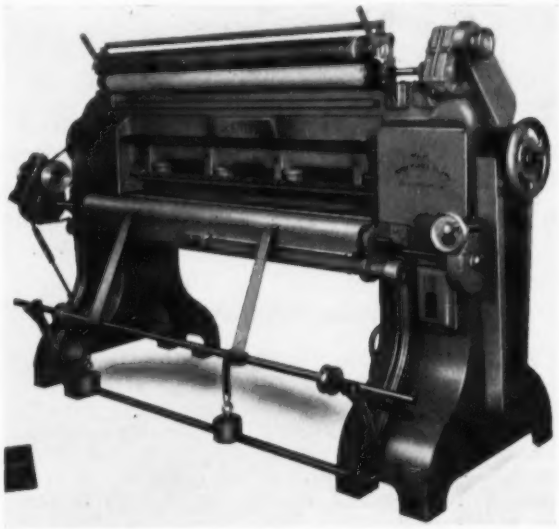
A striping attachment for making stripes in the top or in any part of the sock during rotary knitting is optional. Any of the Model-AA machines can be equipped with the features of the new M-CK machine.

*H. E. Crawford Co., Inc., P. O. Box 427, Kernersville, N. C.*

**Do you want more data? Write ◂ or use card on page 209; list L-114**

## Tufter permits "dialing pile height"

The Model DT60 Super Tufter Dial Type Yardage Machine permits the needle stroke to be changed without changing cams, allows the pile height to be changed without shimming needle plates, and changes the stroke of the loopers and knives without any readjustment. The stitches per inch, yarn feed, and pile height are selected through dials.



Producing materials up to 64" in width (bath sets, small rugs, and yardage for miscellaneous products), the machine can be purchased either with a 6-roll pattern attachment or with the all-purpose electric pattern attachment. Extra optional equipment includes a yarn stop motion, waveline attachment, and knife stop motion.

*Super Tufter Machinery Co., Inc., First Avenue North, Fort Oglethorpe, Ga.*

**Do you want more data? Write ◂ or use card on page 209; list L-115**

## Improves dulling to nylon hosiery

A lanolin emulsion called Lanolube gives a firm, soft hand and improved dulling to nylon hosiery with considerable economy. Containing a high percentage of a specialized lubricant in the finished bath, the compound is compatible with most synthetic resins and dullers. Stable in acids, alkalis, and in normal storage, the emul-

sion has a pH of 3.8, is in paste form of light cream color, and is acetic in odor.

*Richmond Oil, Soap & Chemical Co., Inc., 1041 Frankford Ave., Philadelphia 25, Pa.*

**Do you want more data? Write ◆ or use card on page 209; list L-116**

## Vibrations actuate production recorder

Designed to facilitate the analysis and posting of time study reports and surveys, Con-Trol-Ear, a production time recorder which measures a machine's production time only (in hundredths of hours), is connected by a cable to the recording unit which records the production time on a Record-O-Chart. The unit makes it possible to compare the work output of individual machines and the efficiency of individual operators. Units can be located remotely if necessary. Applications range from the smallest desk top calculator to the largest of rolling mills.

The instrument converts mechanical vibrations into electrical signals which actuate the recording units. Only actual production time is recorded—nonproduction time is erased automatically. Mounting is accomplished by taping the back plate on the unit to a convenient surface of the machine to be measured. It operates automatically, and may be left unattended during all shifts. It is tamper proof.

*Moses Electronics, 330 Locust Street, Box 58, Hartford, Conn.*

**Do you want more data? Write ◆ or use card on page 209; list L-117**

## Rotary-motion abrasion and pilling tester

The Rotary-Motion Abrasion Tester (Pilling Tester) recently made commercially available provides a standardized, quantitative measure of pilling propensity of both woven and knitted fabrics while maintaining normal length-width relationships of the sample. According to the manufacturer, it conforms to standards prescribed by the American Society for Testing Materials.

Pilling tests can be conducted on woven or knitted goods, using the rubber surface, grit surface, or fabric itself as the abrasive. Choice of abrasive material depends on type of sample and probable end-use conditions. The two most common evaluation procedures are pill counts and visual inspection.

Tests for blanket shedding and wear of deep-pile fabrics are customarily evaluated by either weighing the fibers collected from the clearer brush during the progress of the test or visual inspection.

Methods of evaluation for the great variety of abrasion tests possible with this apparatus are suggested by the nature of the material and the degree of precision required. Evaluation is customarily on the basis of physical tests or visual inspection.

*United States Testing Co., Inc., 1415 Park Ave., Hoboken, N. J.*

**Do you want more data? Write ◆ or use card on page 209; list L-118**


**...for straight right-angle cuts every time...the new**

**RIDGID**

**Wide-Roll Pipe Cutter**

**fast true pipe cuts on your power drive**

Rolls are twice the usual width, double the bearing surface on pipe—sure straight start of cut . . . by hand or power drive—extra fast and easy. Pays you to see it before you buy your next cutter—at your Supply House.

**No. 201, ⅛" to 1¼"**
**No. 202, ¼" to 2"**

**The Ridge Tool Company, Elyria, Ohio, U.S.A.**

**RIDGID**
**Work-Saver Pipe Tools**

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## Only complete, authoritative bobbin guide in the industry

"Most useful book on bobbins ever written!" That's how users describe Lestershire's new Bobbin Guide.

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Twelve full pages are packed with just the data you need: diagrams and descriptions of basic bobbin types—details of materials and construction—illustrations and information on a full range of special spools and bobbins for every spindle, speed and yarn.

A brief note on your business letterhead brings your free copy without obligation of course.

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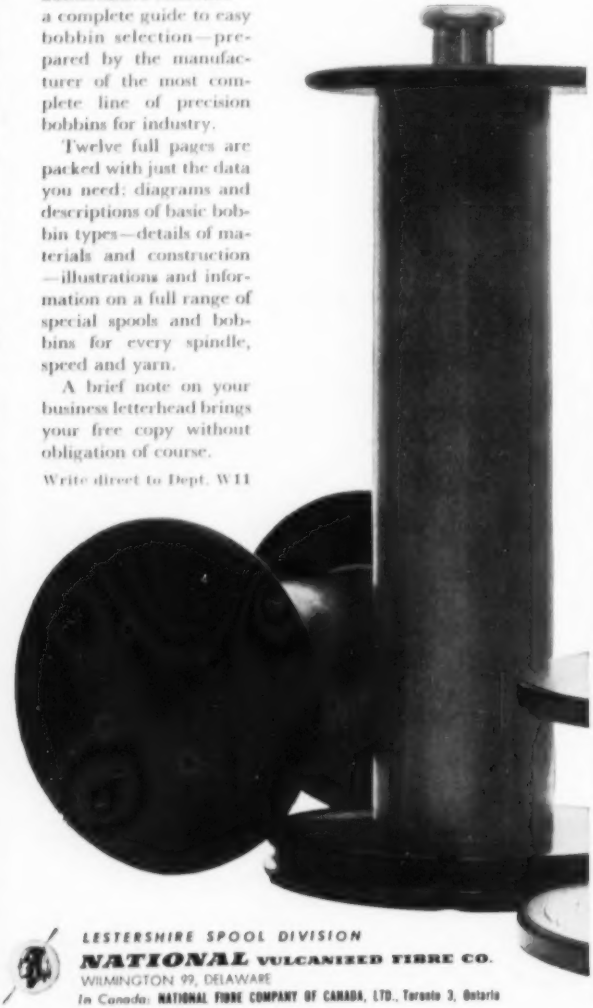

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NATIONAL VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE
In Canada: NATIONAL FIBRE COMPANY OF CANADA, LTD., Toronto 3, Ontario


## Equipment briefs

**Colorful printed cellophane packages** especially suited for low-volume hosiery lines, test programming of new styles, and special promotions, are available in 13 designs. The stock envelopes can be individualized by adding brand identification or other copy, and even by changing the basic colors.

*Lassiter Corp., 350 Fifth Ave., New York 1, N. Y.*

Do you want more data? Write supplier or use card on page 209; list L-201

**Improved nep counting templates** are available in lightweight laminated plastic which are not only less costly but are easier to handle in the mill.

*Shirley Developments, Ltd., 40 King St. West, Manchester 3, England.*

Do you want more data? Write supplier or use card on page 209; list L-202

**Variable speed d-c motor controls** which employ silicon power rectifiers are available with single- and three-phase inputs and power outputs from 1/6 to 15 hp. Power-controls provide continuously variable power to operate d-c motors from zero rpm to rated speed with an over-all efficiency greater than 95%. There are no rotating parts or electronic tubes used.

*Power Control Co., 71 Okner Parkway, Livingston, N. J.*

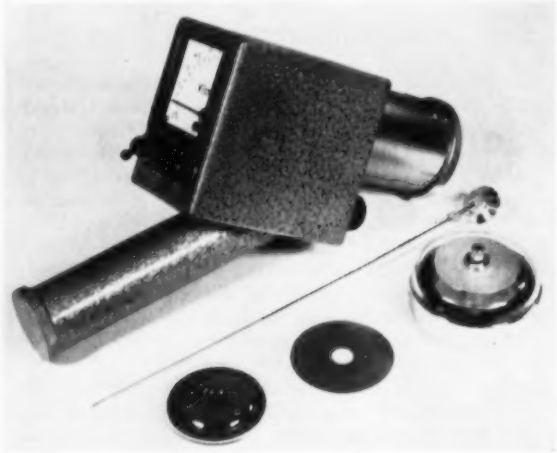
Do you want more data? Write supplier or use card on page 209; list L-203

**A bulked filament rayon yarn** called Skyloft is available in 2200, 2700, 4300, and 5300 deniers (yarn size after bulking) in 15-denier filaments (4300-denier is in 8-denier filaments). The yarn, bulked by passing it through an air jet, is available in both natural and solution-dyed colors.

*American Enka Corp., 206 Madison Ave., New York 20, N. Y.*

Do you want more data? Write supplier or use card on page 209; list L-204

**Static electricity charges are detected** and measured with the Statometer. Designed for instant measurement of trouble spots in process flow, providing immediate de-



termination as to whether or not disturbance is caused by static, the portable instrument will pinpoint the area of disturbance.

*United States Radium Corp., Morristown, N. J.*

Do you want more data? Write supplier or use card on page 209; list L-205

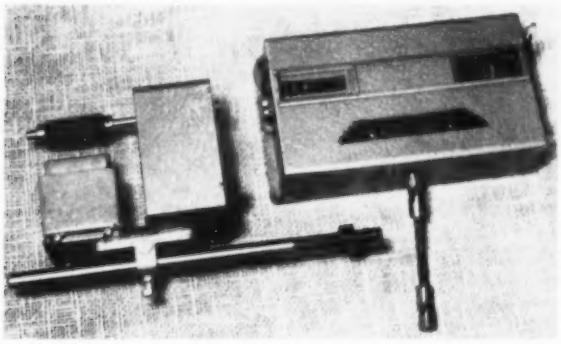
**A warp sizing additive** called Kal-Co-Dac is for use in the sizing of cotton and cotton-Dacron warps. The com-

pound adds strength to the yarn, reduces shedding of size, and increases yarn elongation. May be added to current sizing formulas without change, scours out readily, and will not mildew.

*Kali Mfg. Co., 427 E. Moyer St., Philadelphia 25, Pa.*

Do you want more data? Write supplier or use card on page 209; list L-206

**A warp measuring and marking device** for use on slashers and beaming machines measures and marks distinctly the yarn sheet being processed. The unit is electro-



mechanical, and depresses the yarn sheet at predetermined intervals against a dye-immersed felt-covered roll.

*Trumeter Co., 38 West 32nd St., New York 1, N. Y.*

Do you want more data? Write supplier or use card on page 209; list L-207

**Rotary joints** which give long service life on such equipment as can dryers, palmers, calender rolls, embossers, slashers, etc., are guaranteed to eliminate "freezing or seizing on the rolls." Called Exacto, the joints feature packless and self-lubricating bearing surfaces, flexible shaft alignment for easy installation, and an internal relief design which allows the sealing members to function independently of the operating load.

*Phillips Sales Co., P. O. Box 417, West New York, New Jersey.*

Do you want more data? Write supplier or use card on page 209; list L-208

**Spinning rings** called Mirror-Gold (identifiable by their golden color) offer improved breaking-in schedules, fewer ends down, and longer traveler life.

*Draper Corp., Hopedale, Mass.*

Do you want more data? Write supplier or use card on page 209; list L-209

**A white Acrilan** acrylic fiber, known as Acrilan 16, has been designed for use among end products where particularly clear white and pastel shades are desired.

*The Chemstrand Corp., 350 Fifth Ave., New York 1, N. Y.*

Do you want more data? Write supplier or use card on page 209; list L-210

**Addressing labels, tags, cartons, etc.,** is speedily done by using the Web-O-Print Duplicator which prints from hand-written or typewritten stencils. The reservoir inside the duplicator holds enough ink for several thousand prints. The instrument is held in the hand, and pressed against the surface to be printed much as stamping is done. The system offers automatic counters on some models.

*Weber Marking Systems, Div. of Weber Addressing Machine Co., Inc., 215 East Prospect Ave., Mount Prospect, Illinois.*

Do you want more data? Write supplier or use card on page 209; list L-211

**Two-filament, twenty-denier nylon** especially suited for use in 51-, 54-, and 60-gauge full-fashioned and 400-needle


LABORATORY FOR RENT

Extremely well equipped dyestuff laboratory available to interested users. Completely staffed with highly competent personnel, capable of solving technical problems concerning application of dyestuffs and auxiliary chemicals.

That's right, our lab's for rent! No lease necessary, and the rent is FREE! Where can you beat this?

You see, our application laboratories are of no direct use to us. They're maintained strictly for the use of our customers. In fact, we like our customers to use them as their own.

The wise ones do. They appreciate this concentration of brains and experience, all working on their specific problems, at no extra fee for the service.

Removes all the guesswork from dyeing problems, too. We test all the answers and select the right one. Why spoil yards and yards of cloth?

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seamless hosiery manufacture, is available.

*American Enka Corp., 206 Madison Ave., New York 16, N. Y.*

Do you want more data? Write supplier or use card on page 209; list L-212

**Counters** which combine visual indication with electrical readout for remote indicating, recording, and controlling applications, are electrically or mechanically driven. Provided with manual or electric reset, Data Readout Counters present a positive display of accumulated totals, and automatically create specific control circuit contact closures for each number visually displayed. Each instrument provides 100,000 distinct circuit arrangements.

*Veeder Root, Inc., Hartford 2, Conn.*

Do you want more data? Write supplier or use card on page 209; list L-213

**Compressed air is cleansed, regulated, and lubricated** by a package unit called PSC Air Control Device. Installation of the device is in the air line ahead of air tools and equipment. In that position it regulates the air pressure from that point, removes dirt and water from the compressed air, and meters lubricants into the air supply.

*Perfecting Service Co., 332 Atando Ave., Charlotte 6, N. C.*

Do you want more data? Write supplier or use card on page 209; list L-214

**Rayon crimp staple in 3 and 5½ denier** is available in three lengths. The bright and dull staple is suggested for use in blankets, tufted bedspreads, and bath mat sets because of the lofting properties given by the crimped material.

*Courtaulds (Alabama) Inc., 600 Fifth Ave., New York 20, N. Y.*

Do you want more data? Write supplier or use card on page 209; list L-215

**The steam trap** type FT removes all air and incondensable gases from steam lines but allows no steam to escape. Operating under pressures up to 125 psi, the unit contains operating elements which can be removed without disturbing the inlet and outlet connections. A float-thermostatic trap, it discharges condensate at steam temperature continuously and without shock.

*Sarco Co., Inc., 250 Fifth Ave., New York 1, N. Y.*

Do you want more data? Write supplier or use card on page 209; list L-216

**A pressure-sensitive tape** designed especially for the textile industry (paper wrappings around cloth bolts, rolls, etc., taping warps at the slasher, and tabbing the last lap of fabric rolls) has improved resistance to adhesive transfer and increased stain resistance. Called No. 254 (Scotch), the tape has a tensile strength of 50 psi and an adhesion of 55 oz per inch of width.

*Minnesota Mining and Mfg. Co., 900 Bush St., St. Paul 6, Minn.*

Do you want more data? Write supplier or use card on page 209; list L-217

**A cleaner and protector for condenser synthetic aprons** removes glaze and offers a preserving quality to the rubber. The compound, called the New D&F Five Star Protector, is applied to the moving rubber aprons (between runs), rubbed in, and wiped off. Leather tapes are not harmed by any amount of the cleaner which might be transferred to them during the cleaning and deglazing operation.

*Davis & Furber Machine Co., N. Andover, Mass.*

Do you want more data? Write supplier or use card on page 209; list L-218

**Three base detergent acids,** identified as Tenn-Acids

820, 873, and 864, are now available. These acids offer a simple and practical method for the economical preparation of concentrated, low cloud point liquid detergents based upon alkyl aryl sulfonates for the textile and allied industries.

*Tennessee Corp., Marketing Research and Development Dept., 1330 W. Peachtree St., Suite 500, Atlanta 9, Ga.*

Do you want more data? Write supplier or use card on page 209; list L-219

**Industrial brakes and clutches,** which are (electromagnetically operated, disk type, friction) available in four types and in a wide range of capacities, are especially suited for use in textile and paper processing fields. Operated through simple controls which may be mounted remotely, the Dynator Q brakes and clutches are produced as the basic brake, basic clutch, the clutch-brake, and the clutch-coupling.

*Eaton Mfg. Co., Dynamatic Div., Kenosha, Wis.*

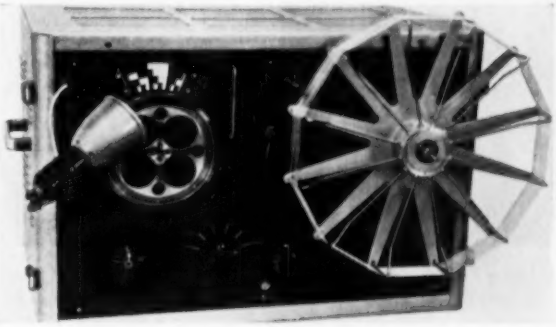
Do you want more data? Write supplier or use card on page 209; list L-220

**A workman's platform and boom attachment** for industrial lift trucks comprises 24 sq ft of working area, and can be fitted with a removable guard rail for safety. The attachment's removable boom, fitted with a hook which accommodates a hand hoist or ratchet hoist, has a capacity of 300 lb and slews through 180 degrees. This attachment is designed to fit directly onto a standard fork carriage. Can be modified to be picked up on a pair of 48" or 60" forks.

*The Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia 15, Pa.*

Do you want more data? Write supplier or use card on page 209; list L-221

**An evenness tester rewinder** now available is an independent unit to be placed underneath the evenness tester. The instrument has winding speeds of 250, 500, 750,



and 1000 yards per minute, and will increase the spectrum analyzed on the Spectograph from 10 yards to 100 yards.

*Uster Corp., 2518 Wilkinson Blvd., Charlotte, N. C.*

Do you want more data? Write supplier or use card on page 209; list L-222

**A constant volume controller** for mixing units used on high velocity, high pressure, double duct air conditioning systems, provides constant volume air distribution through every unit of the system, maintaining a constant flow pattern within conditioned space. This is accomplished by the R-16 Air Flow Controller regardless of the number of mixing units the length of duct runs or the differences in pressure between the hot and cold ducts.

*Johnson Service Co., Milwaukee 1, Wis.*

Do you want more data? Write supplier or use card on page 209; list L-223

NEW EQUIPMENT PARADE

First
from BALTIMORE
The First SUBMARINE of practical value was the "ARGONAUT", invented by SIMON LAKE and built by the Columbia Iron and Dry Dock Co., of BALTIMORE in 1897.
Courtesy — The Baltimore News-Post

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YOUR First CHOICE IN BLACKS

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- ACETATE
- FORMALDEHYDE
- LOGWOOD

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# NEW! Here's a solvent cleaner just perfect for textile mills

**It's Oakite 117** – a cold cleaning solvent that's custom-tailored for use on looms, twisters, reed parts and other textile equipment.

**CLEANS FAST.** Especially effective on combinations of lint, grease, oil and smut.

**DRIES DOWN** quickly and completely under air blow-off or wiping.

**HIGH FLASH POINT.** You get safety to spare.

And low cost adds a straight dollars-and-cents advantage to Oakite 117. Want more details? Write to Oakite Products, Inc., 26C Rector St., New York 6, N. Y.

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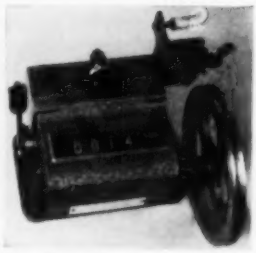
**A thread measuring device** which consists of a grooved wheel over which the yarn is passed, and a counter which records the lengths passed over the wheel, automatically severs the yarn after a predetermined length is measured. Fitted with quick setting movements for easy preparation on repeat runs.



*Trumeter Co., 38 West 32nd St., New York 1, N. Y.*

Do you want more data? Write supplier or use card on page 209; list L-224

**A printing emulsion** which has proven 100% stable under all production conditions is available. With it complete control of vat printing is possible through every stage of processing from mixing the color and printing to the finished fabric. Called Vatclear Concentrate, the product has demonstrated complete stability to electrolytes and has reduced or eliminated losses in production time due to interruptions which were normal with the use of conventional starch, paste, or gums.

*Metro-Atlantic, Inc., Centredale 11, R. I.*

Do you want more data? Write supplier or use card on page 209; list L-225

**Nylon 6 staple fiber** made especially for the tufted carpet trade in both 6 and 15 denier, and in staple lengths from 3 to 9 inches, is available for customer sampling. The fiber has a crimp from 12 to 15 waves per inch, and the crimp is retained during normal dyeing and finishing operations. Yarns spun from the fiber are easily twist set.

*American Enka Corp., 206 Madison Ave., New York 16, N. Y.*

Do you want more data? Write supplier or use card on page 209; list L-226

**Flexible couplings** taper-bored for use with QD Taper Bushings (including types SD, SK, SFG, and CE) are available in six sizes ranging from 22 to 150 hp at 1750 rpm. The couplings are designated CQD-152 (for SD bushings), CQD-191 (for SK bushings), CQD-226 and CQD-276 (for SFG bushings), and CQD-280 and CQD-285 (for CE bushings).

*Lovejoy Flexible Coupling Co., 4900 W. Lake St., Chicago 44, Ill.*

Do you want more data? Write supplier or use card on page 209; list L-227

**A type of four-wheel selector truck** for use with either a tractor-trailer system, in-floor dragline, or manual operation, is available in nine deck sizes ranging from 30" x 48" to 36" x 60". The FloorMaster trucks are adaptable to any warehousing and/or order picking function—2000-lb to 2500-lb capacity. Equipped with 8" casters and 10" or 12" main wheels, the trucks are furnished with a full width blackboard and hinged clip board.

*Lewis-Shepard Products, Inc., 125 Walnut St., Watertown 72, Mass.*

Do you want more data? Write supplier or use card on page 209; list L-228

**A temperature warning system** for marine and land-based power plants scans automatically the temperatures of up to 40 thermocouples in the range of 100 F to 400 F every 10 seconds. Called the Temperature Monitor, the unit triggers an alarm system (visual and aural) that indi-

cates the location of the thermocouples which have temperatures in excess of a pre-set value. A manual selector switch enables one to read the temperature of any one of the thermocouples through a meter located on the front panel.

*Pickard & Burns, Inc., 240 Highland Ave., Needham Heights, Mass.*

Do you want more data? Write supplier or use card on page 209; list L-229

**A softener** (nonsubstantive), developed for incorporation into thermosetting resin finishing baths, can also be used to advantage as a pure finish on cotton and synthetic fabrics. Characteristics imparted by Synthravon P include high tear strengths, good resistance to washing and dry cleaning, and excellent resistance to scorching and yellowing. It does not contribute to chlorine retention damage.

*Arnold, Hoffman & Co., Inc., 55 Canal St., Providence 1, R. I.*

Do you want more data? Write supplier or use card on page 209; list L-230

**A strip-chart recorder** which will automatically plot a continuous curve showing the relationship of one measured variable to another, is designed for such uses as plotting temperature versus pressure in the process industries, and speed versus torque in motor operation. Recording on a 12" chart, the Dynamaster X-Y Recorder is available in pen speeds of up to 0.4 seconds for full scale traverse to follow the most rapidly changing variables.

*The Bristol Co., Waterbury, Conn.*

Do you want more data? Write supplier or use card on page 209; list L-231

**Gear motors** featuring types of construction such as integral, all-motor, and separate reducer, are available in sizes from 1 to 10 hp. The integral is a solid, one-piece design; the all-motor design permits the motor to be unbolted and removed from the reducer, and the separate reducer permits the use of several types of prime movers such as electric motors, turbine engines, etc.

*General Electric Co., Apparatus Sales Div., 1 River Rd., Schenectady 5, N. Y.*

Do you want more data? Write supplier or use card on page 209; list L-232

**Greatly enlarged shadows** of tools, templates, gauges, and other items which can be contour-checked for accuracy, are made on the Micro Projector. The objects to be inspected are placed on a specimen stage under lighting. The resulting shadow is enlarged up to 100 times and thrown on a screen.

*George Scherr Co., Inc., 200 Lafayette St., New York 12, N. Y.*

Do you want more data? Write supplier or use card on page 209; list L-233

**A yellowish-red dyestuff** with superior fastness to light is intended for dyeing wool, silk, or nylon, and is found useful in blends with cellulosic fibers. Irgalan 4GL has very good fastness to perspiration and washing, high resistance to wet mill processing, and has proven economical because of the considerably shorter processing time required for application (compared to strong acid or chrome colors). It produces level, well penetrated shades.

*Geigy Dyestuff, Div. of Geigy Chemical Corp., Ardsley, N. Y.*

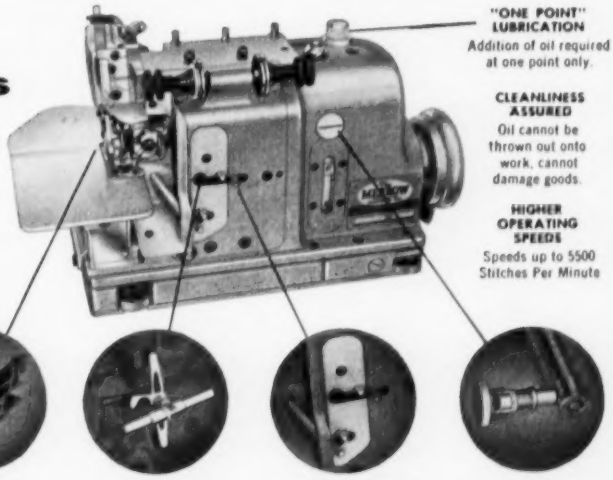
Do you want more data? Write supplier or use card on page 209; list L-234

NEW EQUIPMENT PARADE


**Note These Outstanding Features of CLASS MERROW Machines**

**Featuring *AUTOMATIC LUBRICATION***

See why, for the widest variety of overstitching applications . . . on the broadest variety of knitted and woven materials . . . Merrow Class M Machines provide the most versatile, most reliable means of maintaining high volume, high quality production.


"ONE POINT" LUBRICATION
Addition of oil required at one point only.
CLEANLINESS ASSURED
Oil cannot be thrown out onto work, cannot damage goods.
HIGHER OPERATING SPEEDS
Speeds up to 5500 Stitches Per Minute
LEVELLING DEVICE ON FEED MECHANISM
Available on most models, permits delicate adjustment of feed dogs.
ROD TYPE FRAME CAP
Typical of simplified and improved mechanism throughout.
EASY THREADING
Ready accessibility means less time threading, more time operating.
TWIN PUMPS
Provide continuous oil return, assure proper lubrication at any speed. No wicks to dry out or harden.

"Merrow Class M Machines" illustrates advanced engineering features, provides application information. "Class M Machines for Use on Knitted Outerwear and Underwear" details many common applications.

TRADE MARK REG

The MERROW MACHINE COMPANY

2805 LAUREL ST. • HARTFORD, CONN. • U.S.A.

# Moretex

**Purity** Like a doctor's prescription, Moretex Chemicals are held to rigid standards of purity. Moretex Polyethylenes for instance contain none of the waxes commonly added to cheaper products. Many Moretex products are made in several grades but in every case the ingredients and limitations are clearly specified.

**Equipment** Moretex Chemicals are compounded in modern precision equipment in which all processes can be accurately controlled.

For exact results as you want them, standardize on Moretex Products.

MORETEX *Chemical Products,* INC.
ESTABLISHED 1908
MANUFACTURING CHEMISTS SPARTANBURG, SOUTH CAROLINA



*The Most for your brush money*

## Felton Textile Brushes

Extra performance is the big reason for ordering Felton Brand. Over seventy-five years' experience plus modern equipment and scientific fibre selection assure users long wear, top quality at lowest possible prices. Here are four popular numbers from the nearly 200 designs of hand and machine brushes furnished to textile mills . . .

**Finger Brushes**
Exclusive Felton design sets hair, bristle or nylon in Bakelite, yet costs no more.

**Filling Grate Brushes**
Two popular styles either stiff nylon or heavy coarse fibre.

**Comber Dusters**
Top value is Felton's #41-23 pure horsehair duster — real quality at a popular price.

**S. A. FELTON & SON CO.**
**Manchester, N. H.**

Felton

*SOLD AND STOCKED IN THE SOUTH BY:*

**Schmidt Mfg. Co.**
**of South Carolina**
**Greenville, S. C.**


**A calender measuring unit** which will measure simultaneously various widths of cloth, each of a different length, can be supplied in systems containing two or more units, depending on the maximum number of pieces which can be passed side by side through the calender.

*Trumeter Co., 38 West 32nd St., New York 1, N. Y.*

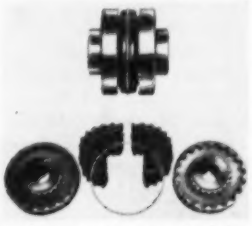
Do you want more data? Write supplier or use card on page 209; list L-235

**White resists** under ground shades padded or cover-printed are obtained with Procion Resist Agent. In many cases the white resist under Procion ground shades are produced without steaming. Also white resists are produced alongside vat dye illuminated resists under padded Procion grounds. In the latter, the steaming given to fix the vat dyestuffs also fixes the ground shade.

*Arnold, Hoffman & Co., Inc., 55 Canal St., Providence 1, R. I.*

Do you want more data? Write supplier or use card on page 209; list L-236

**Flexible couplings** designed to tolerate, without wear, internal abuse or high resisting forces, angular misalignment of up to one degree, parallel misalignment of from 1/32" to 1/16", depending on the shaft size, and free end-float up to ⅛", depending on the shaft size, are noiseless. The couplings are quickly and easily installed; and are now supplied in six sizes for motors from 3 to 80 hp, and in shaft bores from ⅝" to 2¼".



*T. B. Wood's Sons Co., Chambersburg, Pa.*

Do you want more data? Write supplier or use card on page 209; list L-237

## New books

For those who ask themselves "What makes the employees in my department act the way they do?" or "What can I do to learn to understand and supervise them better?" is written *Human Understanding in Industry*. The 112-page handbook for supervisors presents a down-to-earth practical view of how the human personality functions. The material is organized to be especially well suited for supervisor training courses. Copies available from Science Research Associates, 57 W. Grand Ave., Chicago 10, Ill. Price: $2.25 each.

The complete story of machines and systems, what they do and how they do it, is told in *Materials Handling Equipment*. Made graphic by more than 2200 especially-drawn illustrations, the book brings to its readers a total perspective that will enable them to spot key areas to watch, overall systems to compare, new equipment to consider, and a fundamental basis for planning their own operations. Copies available from Chilton Book Div., Chilton Publications, 56th and Chestnut Sts., Philadelphia 39, Pa. Price: $17.50.

Supplements I and II to the *Encyclopedia of American Associations* are available. The first deals with additions, revisions, and labor unions; the second, with functional and topical listings. The basic directory and supplement lists a total of 5947 organizations (there are 900 national associations, societies, organizations, and labor unions listed in the supplement above). Fifty topical and functional classifications are listed in the second supplement. Copies are available from Gale Research Co., 1116 Book Tower, Detroit 26, Mich. Price: $15.00 including supplements.

# TI'S INFORMATION CENTER

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Use this opportunity to keep abreast of new information dealing with machinery, equipment, supplies and services available to your mill.
To obtain more information on advertisements, print the name of the advertiser in the space provided on the card below.
Free booklets and more information on new equipment items may be had by entering their key numbers in the space designated for this use.
This service is made possible by the advertisers of TEXTILE INDUSTRIES as an aid to mill men who want to keep well informed on new developments in the industry. We cannot, however, extend this service to you unless you print or write legibly your name and position, the name of your firm, and its address on the card.
Four cards are provided in case others in your plant would like information . . . and TEXTILE INDUSTRIES pays the postman!

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# HELPFUL BOOKLETS FREE!

**11-1 MOVING LAPS.** System delivers 10 laps per train from pickers to cards. Bulletin C-1, American Monorail Co., 13106 Athens Ave., Cleveland 7, Ohio.

**11-2 NEW JUMBO TWISTERS.** 14" bobbin . . . 12" build carried by anti-friction twister. Meadows Mfg. Co., Atlanta, Ga.

**11-3 SCOUR AND DYE IN ONE BATH.** Complete information on Fancourt's new Scourlon-Pentalon one-bath technique. W. F. Fancourt Co., 519 S. Delaware Ave., Phila. 47, Pa.

**11-4 POWER TRANSMISSION.** If you have a power transmission problem let us quote. Southern Belting and Transmission Co., 236 Forsyth St., S.W., Atlanta, Ga.

**11-5 BICARBONATE OF SODA.** Complete data on Wyandotte Bicarb or Purecal (ppt. $CaCO_3$) available. Section TI, Wyandotte Chemicals Corp., Wyandotte, Mich.

**11-6 TEXTILE MOTORS.** Bulletin TI-10 describes complete line of textile motors. Diehl Mfg. Co., Finderne Plant, Somerville, N. J.

**11-7 AUTOMATIC LUBRICATION.** "From Fibre to Fabric" shows practical benefits offered by automatic lubrication. Bijur Lubricating Corp., Rochelle Park, N. J.

**11-8 HELICLONE LOOM CLEANER.** Details on how it cuts costs, improves quality, reduces fire hazard. American Moistening Co., Cleveland, N. C.

**11-9 STOP CORROSION.** Information on corrosion and chemical resistant coating with Devran. Truscon Laboratories, Dept. T-17, 1700 Caniff, Detroit 11, Mich.

**11-10 BELT LACING.** Case history examples of machine-lacing benefits. Bulletin 157, 980 Front Ave., N.W., Grand Rapids 2, Mich.

**11-12 CLOTH GUIDES.** Bulletin 22.1 provides application diagrams and illustrations. Askania Regulator Co., 260 E. Ontario St., Chicago 11, Ill.

**11-13 BEARINGS ON MEADOWS TWISTER.** Find out how bearings helped make the Meadows Twister almost friction-free. Fabnir Bearing Company, New Britain, Conn.

**11-14 ACTIVATED HYDROGEN PEROXIDE.** How to set up activated hydrogen peroxide bleaching process in your operation. Solvay Process Div., Allied Chemical & Dye Corp., 61 Broadway, N. Y. 6, N. Y.

**11-15 BACKWASHER & DRYER.** Details on simple, automatic, continuous operation. Bulletin No. 203, C. G. Sargent's Sons Corp., Graniteville, Mass.

**11-16 PACEMAKER TWISTERS.** Folder gives details on high production, outlines notable features. Whitin Machine Works, Whitinsville, Mass.

**11-17 FIBER METER.** Automatic weighing and blending assures quality, holds variation to 1%. James Hunter, Incorporated, Greenville, S. C.

**11-18 CUSTOMIZED DETERGENTS.** Versatile, high quality, high purity detergents for wet processing—called Tenn-Acids. Economically prepared by you. Tennessee Corp., 1330 W. Peachtree, Suite 500, Atlanta, Ga.

**11-19 SMOOTH ACCELERATION, DECELERATION.** Describes Eddy-Current equipment for smooth, stepless acceleration & deceleration. Eaton Mfg. Co., 3307 14th Ave., Kenosha, Wisc.

**11-20 FINISHING ROLLS.** Booklet on "Job-engineered" rolls for dyeing or embossing operation. Dayton Rubber Co., Holfast Div., 1486 Lakewood Ave., Atlanta, Ga.

**11-21 CARD DRIVE.** Bulletin 301-a describes simple, safe, efficient individual card drive. Southern States Equipment Corp., Hampton, Ga.

**11-22 LOOM EFFICIENCY.** Information on rod lubricant and applicator, sponge leather bunter, picker. Garland Mfg. Co., 54 Water St., Saco, Me.

**11-23 MATERIALS HANDLING.** Booklet "Materials Handling for Textile Plants" shows how to increase safety and speed. National Vulcanized Fibre Co., Wilmington 99, Dela.

**11-24 BETTER BEAMS.** Information on 3 new ways to make better beams. Kidde Mfg. Co., Dept. WB, 42 Farrand St., Bloomfield, N. J.

**11-25 UNIFORM ROLL LOADING.** Bulletin 98232 describes squeeze roll pressure control. Taylor Instruments, Rochester, N. Y.

**11-26 TRY IT YOURSELF.** Demonstration of Super 18 Executive Beechcraft with weather radar. Call Southern Airways Co., Atlanta, Ga., Tel. POplar 7-8918.

**11-27 MILL IN LOS ANGELES?** Study shows why it would be wise to build the first textile mill in Los Angeles. Mr. Bud Whiser, Chairman, Development Committee, 1024 Maple Ave., Los Angeles 15, Calif.

# HELPFUL BOOKLETS FREE!

## OPENING THROUGH ROVING

**R-1 Lummus Pepper-Shaker Opener** —Gives complete details and photographs Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

**R-2 Static Elimination** — How to eliminate static safely and inexpensively. Simco Co., 920 Walnut St., Lansdale, Pa.

**R-3 Card Grinding Information** — Care and operation of cards. B. S. Roy & Son Co., Worcester, Mass.

**R-4 Card Clothing** — Describes Strip-O-Matic Card Clothing. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia, Pa.

**R-5 Versa-Matic Drawing Frame** — Describes drafting elements, quality of sliver, roving and yarn possible. Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

**R-6 Sargent Opener**—Describes opener with rotary evener and stripper. C. G. Sargent's Sons Corp., Graniteville, Mass.

**R-7 Ball Bearing Comb Boxes** — Describes working principle, shows cut-away Views, Southern States Equipment Corp., Hampton, Georgia.

**R-8 Feathertouch Drafting** — Describes "highest production per frame at lowest cost." Ideal Industries, Inc., Bessemer City, N. C.

**R-9 Automatic Weighing Feeders** — Tandem Weighing Feeder produces webs, mats and felts of continuing accuracy. W. D. Dodenhoff Co., Inc., Box 178, Greenville, S. C.

**R-11 Flexidyne Individual Card Drive**—Describes operating principles, includes prices. Dodge Mfg. Co., Mishawaka, Indiana.

**R-12 Bobbins** — Catalog describes metal, wood and plastic bobbins. Illustrations show actual use. Lestershire Spool Div., National Vulcanized Fiber Co., Johnson City, N. Y.

**R-13 Tips On Carding Procedure** — Very helpful monthly bulletin concerns card operation and care. Ashworth Brothers, Fall River, Mass.

**R-14 Pneumastop For Fly Frames**—Brochure shows type of installation and method of operation. Pneumafil Corp., Charlotte 8, N. C.

**R-15 Advantages of Aldrich Pickers** —Good technical text, comprehensive pictures. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

**R-16 Universal Card Coiler**—Gives 12 reasons why it's "the best," includes dimensions. McDonough Power Equipment, Inc., McDonough, Ga.

**R-17 New Condenser Tape** — Describes Supr-O-Tape an impregnated fabric condenser tape. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia 34, Pa.

**R-18 Coilers and Conversions** — Describes new complete coilers and conversions for cards. Southern States Equipment Corp., Hampton, Ga.

**R-19 84" Woolen Card** — Includes picture, floor plan, description, and technical details. Davis & Furber Machine Co., North Andover, Mass.

## SPINNING—TWISTING—WINDING—SPOOLING—WARPING—THROWING

**R-101 Spinning News** — Up-to-the minute news on spinning equipment. Roberts Co., Sanford, N. C.

**R-103 Products For Spinning and Weaving**—Complete line, applications, advantages shown. Dayton Rubber Co., Textile Div., Dayton, Ohio.

**R-105 Spindle Oil** — "Gulfspin" insures against excessive wear and eliminates spindle wobble. Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.

**R-108 High Speed Automatic Quiller** —Lists advantages and dimensions of "Autocopser." Terrell Machine Co., Inc., P. O. Box 928, Charlotte, N. C.

**R-110 Stop Frame On Roving Failure**—Adamstop instantly detects roving failures, stops frame. Adams, Inc., 209 East Stone Ave., Greenville, S. C.

**R-111 Automatic Cop Winder**—Tells how high production with less labor is possible. F. A. Lazenby Co. 3106 Elm Ave., Baltimore 11, Md.

**R-112 Bahnson Packaged Modernization**—Details on Collecto-Vac, Open-Aire Creels, Cross-Jet Cleaner, Air Conditioning. Bahnson Company, Winston-Salem, N. C.

**R-113 Sectional Warper** — Describes full width and sectional warpers for knitting, weaving. Robert Reiner, Inc., Weehawken, New Jersey.

**R-114 Conical Rings and Flyers** — Complete details and specifications. Herr Manufacturing Co., Inc., 318 Franklin St., Buffalo 2, New York.

**R-115 Precise Winding Machine** — For winding pineapple or straight cones and tubes of synthetics. Foster Machine Co., Westfield, Mass.

**R-116 Automatic Cleaning Equipment**—Working details and advantages of the Tri-Rail Cleaner. American Monorail Co., 13107 Athens Ave., Cleveland 7, Ohio.

**R-117 Aluminum Section Beams** — Lists advantages, includes prices and delivery schedules. Hayes Industries, Inc., Jackson, Mich.

**R-118 Lubricants For Textiles** — Samples of Ben Boy Bearing, Spindle, Twister Lubricants and Non-Melting Oils. Georgia-Carolina Oil Co., Box 101, Macon, Ga.

**R-119 Custom Made Thread Guides**—Includes composition, properties, specifications of all designs. American Lava Corporation Chattanooga 5, Tenn.

**R-120 Spinning Frame Conversions**—Big-package, new-frame results at half the cost. Meadows Mfg. Co., Station A., Atlanta, Ga.

**R-121 Collecto-Vac** — New development collects lint, fly and broken ends. The Bahnson Company, Winston-Salem, N. C.

**R-122 Static Eliminator For Warpers-Slashers-Creels**—Increased production, improved quality, reduced waste. The Portland Co., 22 Fore St., Portland, Maine.

**R-123 Spinning and Twister Rings** — Complete details, pictures, price lists. Whitinsville Spinning Ring Co., Whitinsville, Mass.

**R-125 Lint-Free Creel**—Complete details and pictures of the new Airfoil Design. Pneumafil Corporation, Charlotte 8, N. C.

**R-126 Gear Bulletins** — Cover products and gears for the complete textile mill. Precision Gear & Machine Co., 2001 N. Tryon St., Charlotte 2, N. C.

**R-128 Suction Cleaning System**—Details on new Collector Unit Model C-4. Pneumafil Corp., Charlotte 8, N. C.

**R-129 Facts About Your Flyers and Spindles**—Advantages of smooth flyer and spindle operation. Ideal Machine Shops Bessemer City, N. C.

**R-132 Traveling Cleaners**—Describes improved frame and room cleaners. Parks-Cramer Co., Fitchburg, Mass.

**R-133 Lapless Endless Spinner**—Full information available. Ton Tex Corporation, 31 Columbus Ave., Englewood, N. J.

**R-135 Worsted Spinning** — Describes five stages from top to yarn. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

**R-139 Spindle Oiling Machine**—Features and advantages noted. Wicaco Machine Corp., 4800 Stenton Ave., Wayne Junction, Philadelphia 44, Pa.

**R-141 Handy Spinning Reference** — Shows traveler speeds, sizes of ring flanges. Victor Ring Traveler Co., Providence, R. I. and Gastonia, N. C.

(Continued Next Page)

# MAKE YOUR BALING A *Profitable* OPERATION

*with dependable*

# LOGEMANN BALING PRESSES

Open balers for finished goods may be hydraulic or power-driven. Give platen dimensions required, maximum height of pile to be compressed, number of bales per hour, when requesting information on open balers.

## Tell Us Your Baling Problems

That's the best way to get the right answers to low-cost time-saving baling. During our sixty years of building balers for the textile industry we've solved many a baling problem for mill owners. Our engineers know how to make baling operations pay their own way in time and labor-savings, in speedier, more reliable handling of bales, in lower maintenance cost. Many Logemann balers have been in profitable operation since the turn of the century—evidence of the ruggedness, durability, and long service life of Logemann baling presses.

In the interests of better baling operations in your plant, find out what Logemann balers can do for you. Tell us what your specific problem is. We'll gladly show you how it can be answered in terms of better bales at lower costs and make a specific recommendation based on your requirements. Write for information today.

Box balers for waste may be obtained in either the hydraulic or power-driven type. Mention the kind of waste to be baled, how much in how many hours, the preferred size or weight of bale when inquiring about box balers.

# LOGEMANN BROTHERS CO.

**3102 West Burleigh Street • • • Milwaukee 10, Wisconsin**

# HELPFUL BOOKLETS FREE!

**R-142 Unirail Uptwister** — Higher yarn quality and better packages at faster speeds. Universal Winding Co., P. O. Box 1605, Providence, R. I.

**R-144 Precision Textile Winding** — Tensions and Density Control for winding rubber cones. Kidde Mfg. Co., 35 Farrand St., Bloomfield, N. J.

**R-145 Roller Bearing Spindles** — Pictured in cut-away views, advantages described. The Marquette Metal Products Co., 1145 Glenwood Ave., Cleveland, Ohio.

**R-146 Cone Winder**—Describes Model 102 winder, including applications. Foster Machine Co., Westfield, Mass.

**R-147 Short Cut To Staple Fiber Spinning**—Ten steps in operation of the Tow Stapler. Turbo Machine Co., Lansdale, Pa.

**R-148 Weaver's Knotter** — Instructions as to use, description. A. B. Carter, Inc., Gastonia, N. C.

**R-149 Textile Roll Coverings** — Describes complete line as well as other mill supplies. Armstrong Cork Co., Industrial Div., Lancaster, Pa.

**R-150 Lint-Free Motor** — Describes motor for constant speed a-c driven pickers, roving frames, spinning and twisting frames, etc. Westinghouse Electric Corp., P. O. Box 2278, Pittsburgh 30, Pa.

**R-151 Tape For Driving Spindles** — Describes banding for spindle drives on twisting, roving and spinning. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia 34, Pa.

**R-152 Giant Aluminum Cotton Beams**—Describes 38 x 54" section beams for cotton. Hayes Industries, Inc., Jackson, Mich.

**R-153 Woolen Spinning Frame** — Colored picture, complete details Davis & Furber Machine Co., North Andover, Mass.

## SLASHING—WEAVING—CLOTH ROOM—TUFTING

**R-201 Looms** — Describes "World's Largest Line of Looms." Crompton & Knowles Loom Works, Worcester 1 Mass.

**R-202 Counting And Measuring Devices**—Wide range of counting devices for all types of textile machinery. Veeder-Root, Inc., Hartford, Conn.

**R-203 Loom Supplies** — Describes complete line. E. H. Jacobs Northern Division, The Bullard Clark Co., Danielson, Conn.

**R-204 Innovation In Textile Drying**—Details on Steam or Gas "Hot Air" Slasher. J. O. Ross Engineering Corp., 444 Madison Ave., New York 22, New York.

**R-205 Slashing Hints**—Covers complete slashing operation. Seydel-Woolley & Co., 748 Rice St., N.W., Atlanta, Ga.

**R-206 Loom Production Charts** — Celluloid card shows yards per loom per week. Ralph E. Loper Co., Greenville, S. C.

**R-207 Aluminum Beams**—Describes lightweight beams for textiles, Hayes Industries, Inc., Jackson, Mich.

**R-208 The Story Of Starches** — History and information on manufacture and use of starches. National Starch Products, Inc., 270 Madison Avenue, New York 16, N. Y.

**R-209 Loading System** — Pneumatic loading system for Saco-Lowell slasher. The Foxboro Company, Foxboro, Mass.

**R-211 Steel Warp Beams**—Beams for both broadloom and narrow fabrics. Milton Machine Works, Inc., Milton, Pa.

**R-212 Penford Gums In Textiles** — Describes excellent properties for warp sizing spun yarns. Penick & Ford Ltd., Inc., 420 Lexington Ave., New York 17, New York.

**R-213 Saco-Lowell Positrol Slasher**—Includes advantages, photographs, cut-away drawings. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

**R-214 Rotary Unions**—Cut costs, get better sealing on can dryers. Perfecting Service Company, 332 Atando Ave., Charlotte, N. C.

**R-215 Hot Air Slasher** — Describes advantages and capacities, includes specifications. West Point Foundry & Machine Co., West Point, Ga.

**R-216 Air Slasher Dryer** — Shows construction and operating details. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

**R-217 Butt-Tacking Sewing Machine**—Describes operation, installation of single thread butt-tacking sewing machine. The Merrow Machine Co., 28 Laurel St., Hartford, Conn.

**R-218 Loom Reed Booklet** — Describes in detail a variety of reeds. Steel Heddle Mfg. Co., 2100 West Allegheny Ave., Philadelphia 32, Pa.

**R-219 Cocker Equipment**—Information on warp sizer, beam warper, creels, tensions, back-winders, etc. Cocker Machine & Foundry Co., Gastonia, N. C.

**R-220 Chemical Data Sheets**—Available on a full range of chemicals. Nopco Chemical Co., Harrison, N. J.

**R-223 Tufting Machines** — Describes automatic pattern attachment. Cobble Bros. Machinery Co., Inc., River Road, Chattanooga, Tenn.

**R-224 Amco Heliclone Loom Cleaner**—Tells how to eliminate the job of cleaning looms manually. American Moistening Co., Providence, R. I.

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**R-227 Formulas For Slashing Arnel**—Includes also information on warping, weaving and quilling. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte 1, N. C.

**R-228 The Random Web Process** — Describes the Rando-Webber and Rando-Feeder. Bulletin 105. Curlator Corp., Textile Div., 501 W. Commercial St., Rochester, N. Y.

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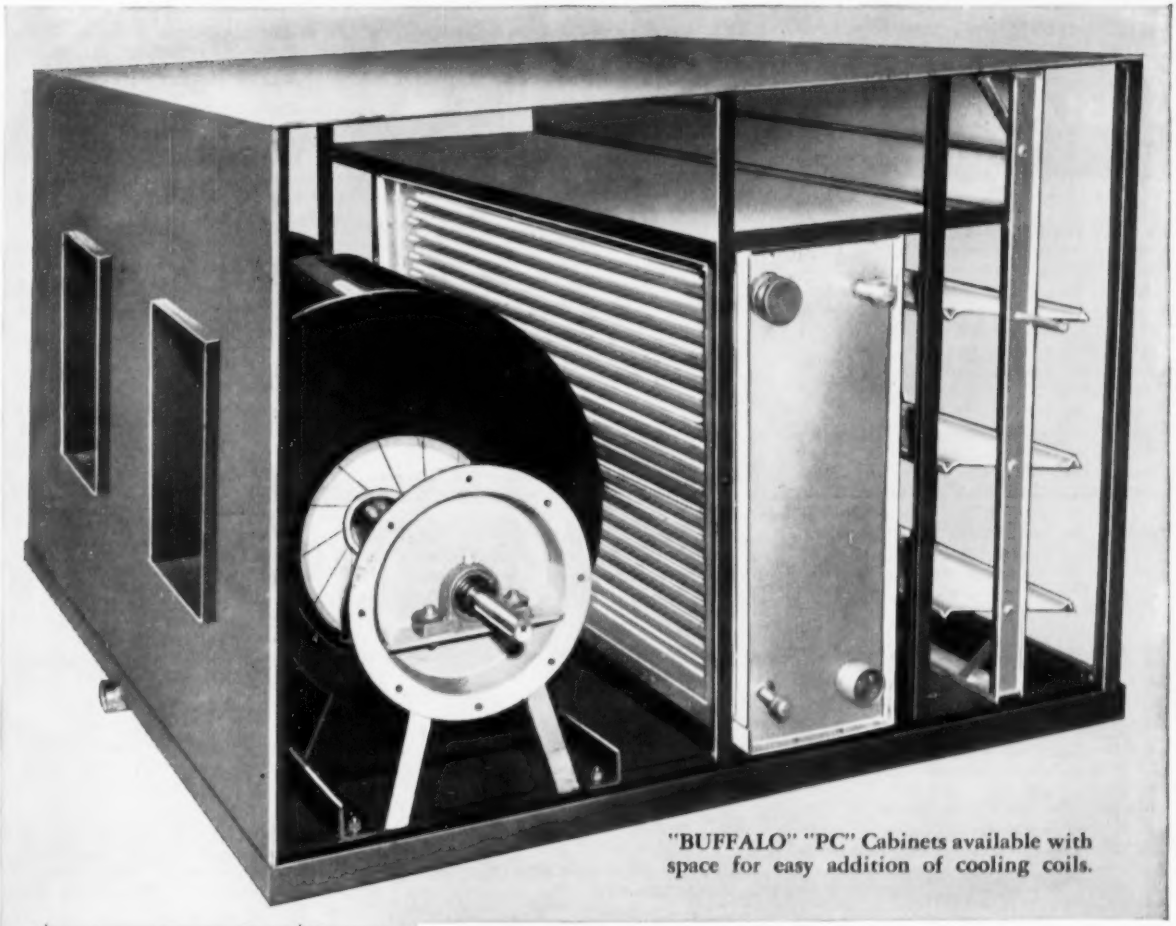

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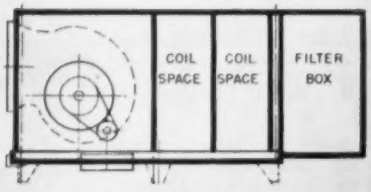


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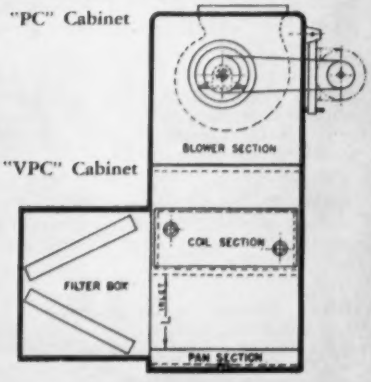


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**R-436 Rapidase For De-Sizing** — The properties and characteristics of Rapidase in detail. Wallerstein Co., Inc., 180 Madison Avenue, New York 16, N. Y.

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**R-502 Fortisan-36, New Textile Fiber**—Includes charts, diagrams, text, presents technical properties. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte, N. C.

**R-503 Caprolan Nylon Heavy Yarns**—Describes strength, long flex life and ready dyeability. Fiber Sales Dept., National Aniline Div., 261 Madison Ave., New York 16, N. Y.

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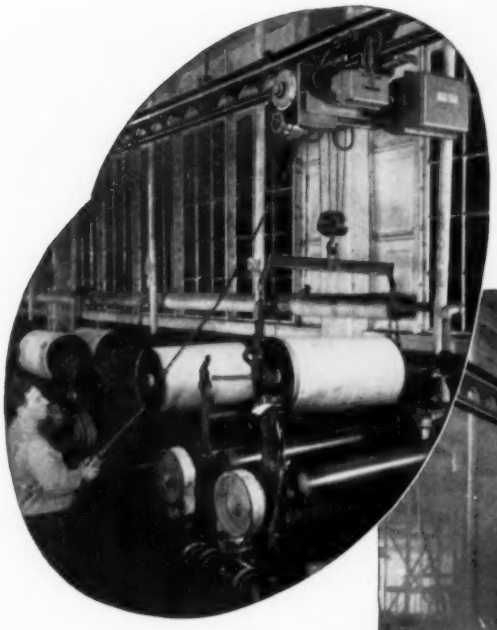

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**R-836 Metered Lubrication** — Points up advantages of central lubrication systems. Bijur Lubricating Corp., Rochelle Park, N. J.

**R-837 Service Procedure For Ball Bearings**—Helpful manual shows how to increase life of ball bearings. New Departure Div., General Motors Corp., Bristol, Conn.

**R-839 Lubrication Of Electric Motors** —How to lubricate and clean ball and roller bearings. New York & New Jersey Lubricant Co., 292 Madison Ave., New York 17, New York.

**R-840 Ball Bearings For Textile Machinery** — Bearings for all phases of textile processing. The Fafnir Bearing Co., New Britain, Conn.

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**R-847 Lubricants For Textiles** — Working samples of bearing lubricants, spindle oils, etc. Georgia-Carolina Oil Co., Box 101, Macon, Ga.

**R-850 New Lubricated Plug Valves**—Semi-steel and steel lubricated plug line. The William Powell Co., 2525 Spring Grove Ave., Cincinnati 22, Ohio.

**R-851 "Tank Talk"**—Shows various types of elevated steel tanks. R. D. Cole Manufacturing Co., Newnan, Ga.

**R-852 Cotton Mill Equipment** — Traces pictorially the steps in processing raw cotton into finished cloth. Westinghouse Electric Corp., 511 Wood St., Pittsburgh 30, Pa.

**R-853 Micro Switch Bulletin**—Catalog of products includes prices, applications, etc. Micro Switch Div., Minneapolis-Honeywell Regulator Co. Freeport, Ill.

**R-854 Roller Bearings For Textiles**—How roller bearings can help production. Hyatt Bearings Div., General Motors Corp., Harrison, N. J.

**R-855 Unit Heater** — Data on the Herman Nelson horizontal and vertical units. American Air Filter Co., Inc., 215 Central Ave., Louisville, Ky.

**R-856 Stainless Steel For Textiles**—Applications and advantages of stainless textile equipment. Allegheny-Ludlum Steel Corp., Dept. TI-93, Oliver Bldg., Pittsburgh 22, Pa.

**R-857 Finnell Combination Scrubber-Vac**—Illustrated literature gives complete specifications and describes various methods of combination-machine-scrubbing, including method recommended for cleaning oily floors.—Finnel Systems, Inc., 1300 East St., Elkhart, Indiana.

**R-861 "Vari-Pitch" Sheave Bulletin**—Control by means of pitch diameter adjustment described. Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.

**R-863 Penetrating Wood Finish** — Describes floor seals for textiles. E. I. Du Pont De Nemours & Co., Inc., Finishes Div., Wilmington, Del.

**R-864 Certified Climate Air-Changer System** — Describes use with direct humidification for partial or complete air conditioning. Parks-Cramer Co., Fitchburg, Mass.

**R-868 Ridge Tool Prices**—Capacities and weights included along with pictures. Ridge Tool Co., Elyria, Ohio.

**R-869 Stainless Steel Fabrication** — Information on ventilating and drying, slasher exhaust, and materials handling in stainless. Sims Metal Works, West Point, Ga.

**R-872 Metal Conveyor Belts** — Illustrates entire range of manufacture. Ashworth Bros., Inc., Metal Products Div., Fall River, Mass.

**R-873 Rihco Humidifiers And Cooling Systems**—Describes new atomizers to lessen air consumption in evaporative cooling systems. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

**R-874 Dynac Brake Motors**—Electrical braking of a-c motors-roving, spinning, knitting. Westinghouse Electric Corp., Pittsburgh, Pa.

**R-875 Textile Applications For "Scotch" Tape**—Some good ideas on using "Scotch." Minnesota Mining & Mfg. Co., St. Paul 6, Minn.

## MATERIALS HANDLING

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**R-907 Corrugated Containers** — Describes Multi-Unit and Bulk Container. Gaylord Container Corp., 111 N. 4th St., St. Louis 2, Mo.

**R-909 Tramrail Engineering And Application** — Data on how Tramrail Equipment can cut handling costs. Cleveland Tramrail Div., Cleveland Crane and Engineering Co., 1036 East 289th St., Wickliffe, Ohio.

**R-910 How To Specify Packaging** — Regulations on shipment, how to determine which package to use. Hinde & Dauch, Sandusky, Ohio.

**R-911 New Lift Trucks**—Shows latest trends in lift truck design. Hyster Co., 2902 N.E. Clackamas St., Portland 8, Oregon.

**R-912 Materials Handling For Textiles**—Shows how fibre trucks can increase efficiency, protect products. National Vulcanized Fibre Co., Wilmington 99, Del.

**R-913 Continuous Power Conveyor**—Complete information on Zig-Zag Conveyor. Richards-Wilcox Mfg. Co., Aurora, Ill.

**R-914 Stresses On Overhead Tracks**—Covers track peening, discusses stresses. Cleveland Tramrail Div., Cleveland Crane & Engineering Co., Wickliffe, Ohio.

**R-915 Scientific Materials Handling**—Describes various materials handling devices, includes pictures. Bennett Rose Co., Box 8, Roebuck, S. C.

**R-916 Overhead Materials Handling**—Treats twin fan ceiling cleaners and shock proof electrification as well. Louden Machinery Co., Fairfield, Iowa.

**R-917 Little Packaging Library** — Series of booklets covers the business of shipping in corrugated boxes. Hinde & Dauch, Sandusky, Ohio.

**R-919 Improved Materials Handling**—"Materials in Motion" describes use of fibre containers. National Vulcanized Fibre Co., 1056 Beech St., Wilmington, Del.

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## What the TEXTILE MILLS are doing

In Jefferson, N. C., the new plant of **P. H. Hanes Knitting Co.** has begun operations producing men's shorts. The firm employs approximately 90 people.

The new owners of **Hope Webbing Co.** have announced plans for laying off a number of operatives, eliminating some older machinery, and consolidating its operations in approximately 100,000 sq ft of floor space at Pawtucket, R. I.

**Frank Ix and Son** plans to enlarge its operations at Lexington, N. C., by approximately 20%.

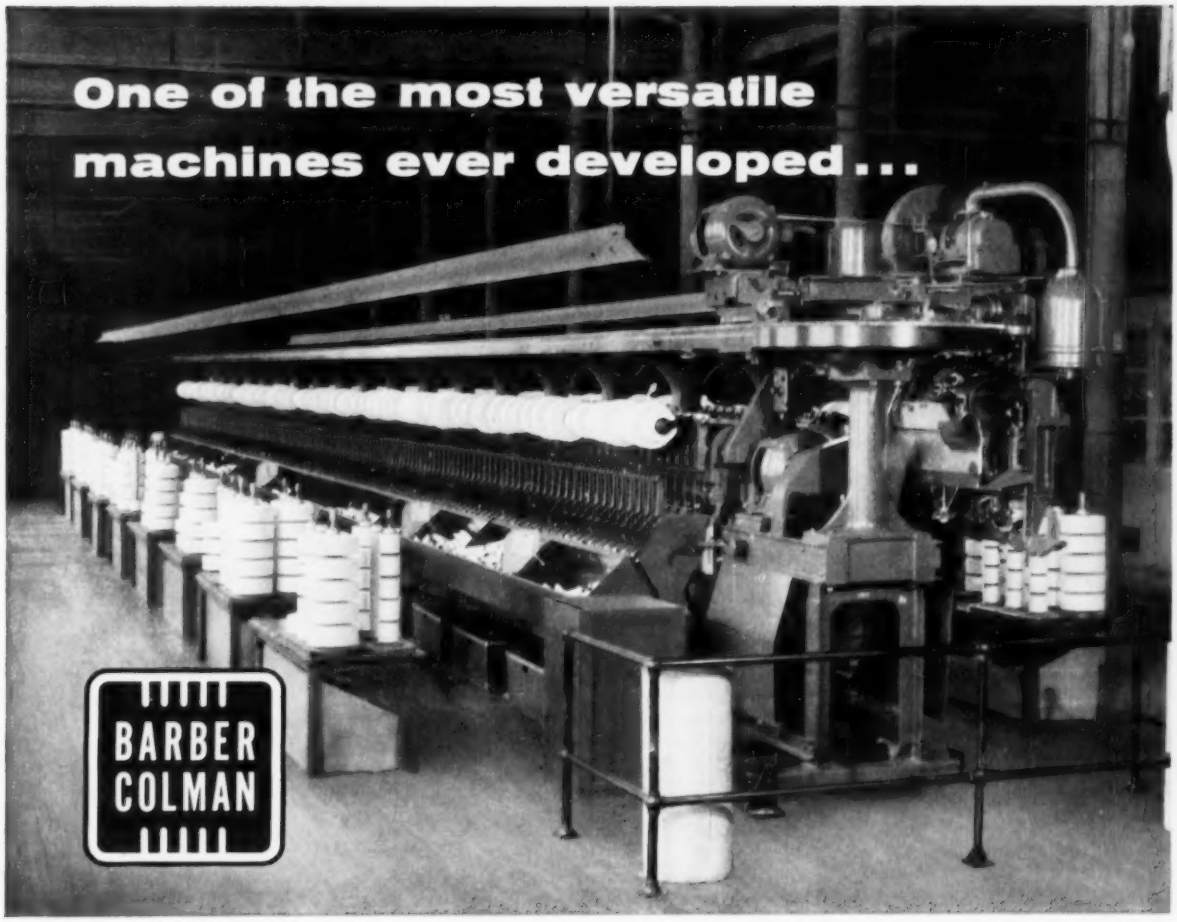
A patent has been issued to **Waldesian Hosiery Mills, Inc.,** Valdese, N. C., relating to an argyle-type sock with cushion sole and high splice. The patent also applies to a method of knitting the sock so that the cushioned and high splice part extends into the patterned argyle-type leg above the heel pocket.

After half a century of importing high quality Oriental rugs, **A. & M. Karagheusian, Inc.,** is discontinuing its import division at the end of this year. At one time the firm maintained offices and rug weaving looms in Iran for the production of hand-woven rugs, and owned a rug-producing wool mill in China employing several thousand Chinese. The latter operation ended with the Communist rise to power in that country.

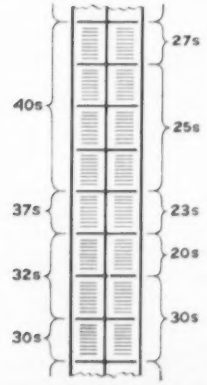
At Asheboro, N. C., Hammond-Cagle Hosiery Co. has been incorporated under the name of **Libby Hosiery Mills, Inc.** The firm continues to produce 51 gauge full-fashioned hosiery.

Plans have been announced concerning an increase in plant size at **Miller Hosiery Mills, Inc.,** Concord, N. C., and for doubling the firm's output of ladies' fine gauge seamless hosiery. Employment will increase to approximately 40 persons. The machinery will be increased to 75 knitters from its present total of 35.

A tract of land at Madisonville, Tenn., has been purchased as a site




# MULTIPLE-COUNT SPOOLER

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## What the TEXTILE MILLS are doing

for a woolen mill to be built by early 1959. The plant will produce coatings, suitings, dress and sportswear fabrics, and will be known as **Madisonville Woolen Co.**

Production at **Philip Knitting Mills,** 780 E. 138th St., New York City, is being doubled by the installation of 10 new interlock knitting machines. The firm produces ladies' and children's sweaters.

Some 22,000 sq ft of the former Peerless Finishing Corp., Fair Lawn, N. J., are being used by a new dyeing and finishing corporation, **Palmer Dyeing Corp.,** headed by the former president of Peerless, Thomas Zarella.

The first award in Classification No. 10—polyethylene sheets and rolls—at the Second Annual Flexible Packaging Competition went to **Lyman (S. C.) Printing & Finishing Co., Inc.,** subsidiary of M. Lowenstein & Sons, Inc., for its packaging of Pacific sheets.

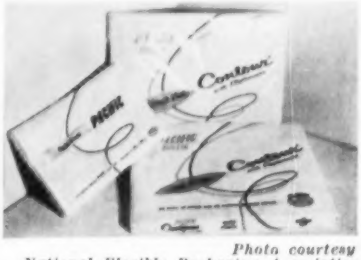
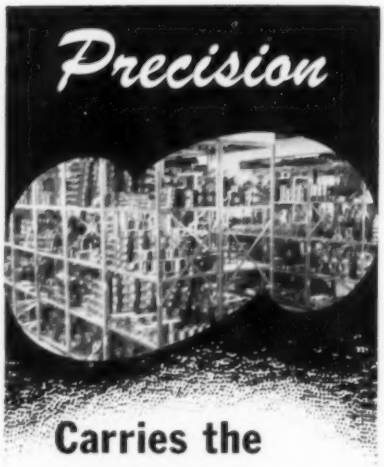


*Photo courtesy National Flexible Packaging Association*

Four plants in the Martel Mills Corp. group, and three in the Henrietta Mills group, have recently been purchased by **Burlington Industries, Inc.** The Martel plants are at Asheville, N. C., and at Batesburg, Lexington, and Spartanburg, S. C. The Henrietta plants are at Caroleen, Henrietta, and Cherokee Falls, S. C. The plants will continue to operate under the present management. * * * A new community center, built by **Peerless Woolen Mills,** Rossville, Ga., has been turned over to that city. Built at a cost of approximately $500,000, the center is designed for use of Peerless employees, their families, the schools of that area, and community organizations.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To aid in identifying mates, **Adams-Millis Corp.**, High Point, N. C., is putting different colored threads in the looper line of socks. Another plan the firm intends to try is treating work socks with a chemical to retard the growth of new bacteria.

Following a move by the voters of Chester, S. C., to exclude the Springsteen plant of **Springs Cotton Mills** from the city limits, Springs has announced tentative plans to enlarge Springsteen by 30 to 50%. The ultimate size of the addition is dependent on engineering studies now under way to determine the feasibility of making a three-story addition 150' square. A two-story annex may be recommended. The space (whatever the final figure) will be used for cotton textile machinery.

At the recent Second Annual Flexible Packaging Competition, the second award in Classification No. 4—polyethylene bags and pouches—was

*Photo courtesy National Flexible Packaging Association*

given to **Fairfield Knitwear, Inc.**, Norwalk, Conn., for the firm's packaging of its Ban-Lon sweaters. The package also won for Fairfield the first award in soft goods, wearing apparel class.

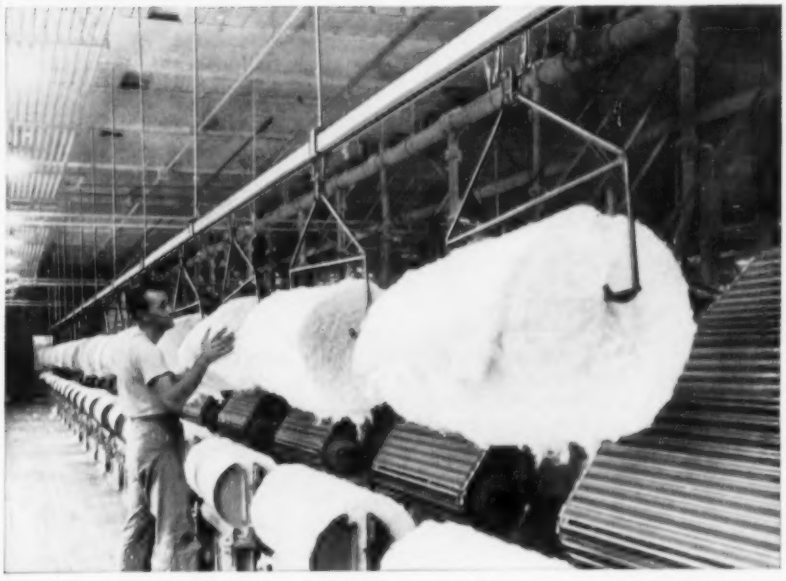
**Hale Mfg. Co.**, East Killingly, Conn., has purchased the Rockwell Woolen Co., Leominister, Mass. Rockwell, which has been closed since May, will reopen with Edward Rockwell, manager and treasurer of the former company, as manager.

The idle plant and real estate of Airedale Worsted Mill, Inc., Woonsocket, R. I., has been purchased by **Dauray Textiles, Inc.**, also of Woonsocket. Dauray, in conjunction with moving to the new location, will expand its specialty yarn operations.

A $3,000,000 expansion program is underway by **Eastland Woolen Mill, Inc.**, Corinna, Me. The program will include the addition of two buildings totalling approximately 100,000 sq ft,


. . . for a new textile plant going into production

or the expansion of present production lines



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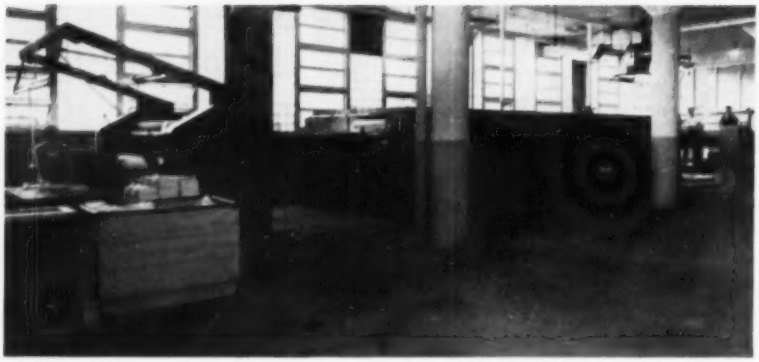
and a considerable outlay for additional machinery. The personnel force will be enlarged gradually from its present size of 450 to approximately 600.

The **P. H. Hanes Knitting Co.,** Winston-Salem, N. C., recently made the congregation of the Hanes Baptist Church of that city a gift of $85,000 in the form of the church building and adjoining property. A previous similar gift had been made by Hanes to the Hanes Methodist Church.

At Dalton, Ga., **G. H. Rauschenberg Co.,** maker of tufted rugs and carpets, has completed extensive plant improvements. Among the additions made are new tufting machines which will increase production by 25%, and a redesigned latex curing oven to accommodate the production increase. Also added was an experimental laboratory which will double as a quality control facility.



This 60-foot long machine for drying and finishing rubberized fabrics from 4 to 54 inches wide at speeds up to 25 feet a minute was recently installed in the Chicago, Ill., plant of the Vassar Co., a firm which is said to be the sole American foundationwear manufacturer to knit its own fabrics. Tended by one operator, the machine will perform in minutes the necessary drying, pressing, and folding of the fabrics, saving considerable time and eliminating hand operations—previously drying alone was a 24-hour process, and folding and pressing were hand operations. According to the announcement, the German-made machine cost $75,000 and is the only one of its kind in the United States.

The buildings and machinery of Vermont Textiles, Inc., woolen manufacturers of North Montpelier, Vt., have been leased by **Wallisford Mills, Inc.,** Keene, N. H. The mill specializes in men's flannels, fancy skirtings, and outerwear cloth.

The first 80 of a proposed 300 seamless hosiery knitting machines have been installed by **Hudson Hosiery Co.** in its Shelby, N. C., plant. The present 68 machines producing full-fashioned hosiery will continue in operation.

A new elastic hose for use by women with varicose veins and other leg ailments requiring leg support has been developed by **Johnson & Johnson.** Offering a sheer, attractive appearance, the stocking is made of Helanca and nylon-covered rubber yarn.

**Pontiac Weaving Corp.,** Pawtucket, R. I., has bought a portion of the Almardon Mills, Inc., plant in Lonsdale, R. I., for the expansion of its synthetic weaving operations. The additional facilities will make 30,000 square feet of floor space and 192 more looms available. Warping and weaving operations in Lonsdale will start immediately.

Supplying woolen yarn for use in the manufacture of baseballs, **Lannom Mfg. Co.,** has begun operations in Tullahoma, Tenn.

At the 15th annual meeting (September 23-26 at the Dinkler-Plaza Hotel, Atlanta, Ga.) of the Underwear Manufacturers Executives Association, **The William Carter Co.,** Needham Heights, Mass., acted as host company to 30 representatives of seven other underwear manufacturing companies. On the agenda: a two-day plant tour of Carter's mills in Forsyth, Thomaston, and Barnesville, Ga., and of B. F. Goodrich Company's

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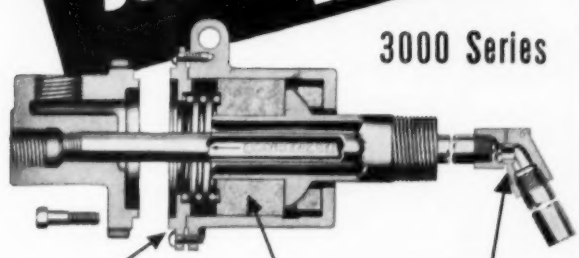
3000 Series



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**SELF-SUPPORTING** — Needs no external supports of any kind.

**SYPHON ELBOW** — Permits use of straight pipe for syphon. Can be inserted or withdrawn right through the joint.

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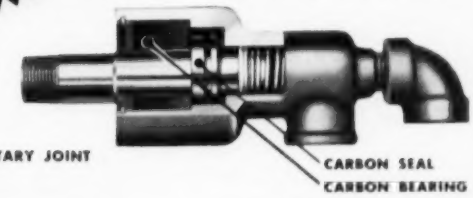

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- LOW TORQUE means power savings
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**SEALOL**

THE BALANCED PRESSURE SEAL

## What the TEXTILE MILLS are doing

Martha Mill, also in Thomaston; and a half-day of panel discussions devoted to research and development, operations research, and statistical quality control.

Twenty-five men have enrolled in the night classes in textile chemistry being offered by the Trion, Ga., division of **Riegel Textile Corp.** Four two-hour classes are held weekly under the direction of Ernie Freeman, head chemist of the Trion division laboratory.

Plans have been made for giving free Asiatic flu innoculations to the more than 30,000 employees of **J. P. Stevens & Co., Inc.** in the Greenville, S. C., area.

The newly formed **Quincy Dye Works, Inc.,** has purchased the real estate and machinery of the former Joan Plush Mill in Woonsocket, and will use them in integrated relationship with two other firms.

The facilities of **Bellefont Dyeing Corp.** have been moved to Rockville, Conn., from Fiskdale, Mass. The firm, until now engaged in processing rayon fabrics only, will be able to broaden its operations to include other fabrics. The personnel were given the opportunity to move to the new location and to retain seniority rights.

Doll socks designed for dolls (the toy type) wearing Bermuda shorts, and bobby socks designed for real life little girls between the ages of two and four, are being made at **Riverside Hosiery Co.,** Ararat, N. C. The doll socks are knit to fit—they are not made by closing one end of a tube—and production has reached 18,000 pairs per week.

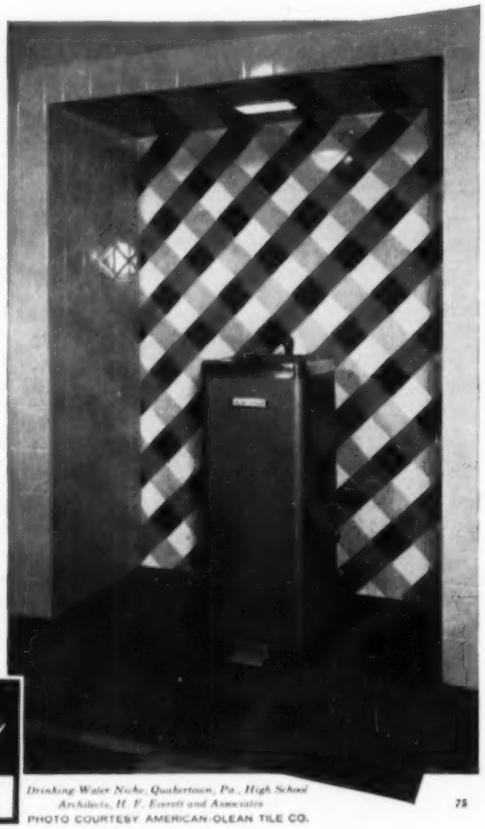
**Wunda Weve Carpet Co.,** Greenville, S. C., has introduced its first wool carpet and has also added a new 100% nylon carpet to its lines. The woven wool carpet is named Wunda Parquet and features a new and different texture. The nylon carpet is called Wunda Twist, and is being offered, like Wunda Parquet, in five colors.


DESIGNED TO FIT THE *finest* DECOR

This smart, colorful setting of American-Olean Tile shows how well a Halsey Taylor cooler can adapt itself to modern treatments.

Whether it's a cooler or fountain, Halsey Taylor streamline styling is an important advantage to you!

*The Halsey W. Taylor Co., Warren, O.*



*Drinking Water Niche, Quakertown, Pa., High School Architects, H. F. Everett and Associates*
PHOTO COURTESY AMERICAN-OLEAN TILE CO.

Halsey Taylor®
COOLERS

75


## SUPPLIERS News
### WHAT THEY ARE DOING

Recently elected president of the **S. A. Felton and Son Co.** was Raymond H. Daniels, succeeding J. Briggs Felton who is retiring after more than 45 years of continuous service. James B. Felton, Jr., has been appointed as a vice-president and assistant general manager, and Leverett H. Nichols as assistant general manager.

**Howard Brothers Manufacturing Co.** announces the appointment of Alfred J. Govin as sales representative to the textile mills of Canada, New England, and parts of the middle West. He is also consultant to woolen yarn manufacturers.

**Mr. Govin**
*Howard Bros.*

**Mr. Golden**
*Fafnir Bearing*

Appointment of J. Porter Golden as Atlanta regional manager of **The Fafnir Bearing Co.** has been announced. Previously production manager of Golden's Foundry and Machine Co. of Columbus, Ga., Mr. Golden takes over the Atlanta office left by A. G. Laughridge, who has retired after 33 years with Fafnir. Expansion of activities in Florida has led to the new sales headquarters in the Tampa-St. Petersburg area, which is now covered by Frederic D. Van Arnam.

**Ideal Industries, Inc.,** Bessemer City, N. C., announces that Callaway Mills, Unity Plant, LaGrange, Ga., has installed **36** deliveries of new Ideal drawing. Ideal drafting system changeovers have been installed at the following plants in numbers indicated: Chicopee Manufacturing Co., Walhalla (S. C.) division, 20; Balston Yarn Mills, Inc., Lincolnton, N. C., 42; Ponemah Mills, 32. The Springs Cotton Mills' Lancaster (S. C.) plant is in the process of changing over 864

# ONLY BORNE HAS IT!

## *Identification*
**on All Synthetics—Blends**

## *Plus* FUGITIVITY
**UNMATCHED**
**ON NYLON & WOOL!**

*The Amazing New*

# SOLUTINTS

SOLUTINTS are a series of fugitive tints that provide identification, lubrication, and improved processing of all natural and synthetic fibres. In addition to giving *maximum tinctorial strength* — SOLUTINTS combine controlled moisture retention with *improved scourability.*

*Contact*
**BORNE CHEMICAL COMPANY, INC.**
*82 Years of Textile Know-How*
*Formerly* **BORNE, SCRYMSER COMPANY**
**Elizabeth, N. J. • Charlotte, N. C.**

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A DEPENDABLE SOURCE OF SUPPLY

THOMASTON Fabrics

## *Industrial Textiles*

*such as:*

TIRE FABRICS
HOSE AND BELT DUCKS
CHAFERS
LAUNDRY TEXTILES
SEWING TWINES
CORDAGE
YARNS
COATING FABRICS
SHEETINGS

•

*other available facilities:*

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DYEING
FINISHING
SEWING

*We solicit your inquiries*

# THOMASTON MILLS

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NEW YORK OFFICE: 40 WORTH STREET
Phone: WOrth 2-6730

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NEW

## The Automated MICRONAIRE

- Speeds up checking two to three times.
- Provides a quick, easy, accurate and authorative measure of fiber fineness.
- Indicates the quality and value of the cotton.
- Indicates the dyeing properties.
- Measures the maturity of cotton.
- Predicts the spin-ability of cotton.
- Forecasts the appearance of the yarn and cloth by indicating the number of neps to be expected.

*For NEW Book* "Advantages and World-Wide use of the Micronaire in all segments of the Cotton and Textile Industries"
*Write to Dept.* 29 — THE SHEFFIELD CORPORATION
Dayton 1, Ohio, U. S. A.

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*the* **SHEFFIELD** *corporation*
manufacture and measurement for mankind
a Bendix Aviation Corporation

★ Quality
★ Dependability
★ Savings

G-C

QUALITY LUBRICANTS

For All Types of
TEXTILE MACHINERY

*Working Samples Gladly Furnished*

Phone, Write or Wire

GEORGIA-CAROLINA OIL CO.
P.O. Box 101 Phone 2-1428
MACON, GA.

## SUPPLIERS News
WHAT THEY ARE DOING

deliveries of drawing to Ideal Feathertouch Drafting.

The appointment of Edward S. Miller as senior sales and service representative in Minnesota and western Wisconsin has been announced by **Lewis-Shepard Products, Inc.**

William Edwards, president of **Management Engineers Associated,** has announced the scheduling of a series of "Production Clinics" for qualified personnel in the needle trades industry. Duration of the class is three weeks, each participant receiving 100 hours of instruction, supplemented by 45 hours of outside study.

**Narda Microwave Corp.** has announced the company's entry into the ultrasonics industry. A subsidiary, The Narda Ultrasonics Corp., has been formed as a separate operating group to provide ultrasonic cleaning machines and metalworking equipment. Associated with the firm in this venture is Paul M. Platzman, formerly a director and vice-president of Acoustica Associates, Inc., who will function as vice-president and sales manager of the subsidiary. Further, research and development contract services will be offered, enabling textile and other industries to capitalize on late advances in ultrasonic theory and apparatus.

Announcement has been made of the purchase by Neptune Meters Limited, Toronto, Canada, of all outstanding stock of Cleveland Meters Ltd., England. The Canadian organization is a subsidiary of **Neptune Meter Co.,** New York.

**Pennsalt Chemicals Corp.** has announced the formation of a wholly-owned subsidiary in Canada known as Pennsalt Chemicals of Canada, Ltd. William B. Billingsley, who has directed Pennsalt specialty sales in Canada since 1954, has been named vice-president of the new subsidiary and resident manager of its operations.

**Reading Testing Laboratories, Inc.,** announces the relocation of the plant from 1145 N. Mill Street to larger quarters at 658 S. 7th St., Reading, Pa. The new location provides twice the amount of floor space for the firm's manufacture of textile chemicals for the hosiery industry, than was available at the former plant.

Election of E. F. (Ted) Hayes as executive vice-president of **Riggs & Lombard, Inc.,** has been announced. Formerly vice-president and general manager of Talbot Mills and Massachusetts Mohair Plush and their group, Mr. Hayes will make his headquarters at Lowell, Mass.

**B. S. Roy & Son Co.** announces completion of their Gastonia, N. C., plant. New machinery and personnel have been added to the Gastonia operation so that all major grinding requirements for the southern textile industry can be handled from this southern location. Included in Roy's new service will be the manufacture of new equipment, maintenance of a complete inventory of new machines and repair parts, and rebuilding facilities.

**Sarco Co., Inc.,** and Sarcotherm Controls, Inc., announce the moving of their national headquarters from the Empire State Building to expanded office facilities at 635 Madison Ave., New York, N. Y. Manufacturing facilities for steam traps, temperature controls, and heating specialties are located in Bethlehem, Pa.

**Schmidt Manufacturing Co.** has announced the appointments of Joseph Motta as vice-president, sales; W. Wallace Pittendreigh as vice-president, engineering; Alex Jones as comptroller, and Clyde E. Hughes as purchasing agent.

**Singer Sewing Machine Co.** has just released the first issue of "Production Sewing," a new technical publication for the needle trades in the U. S. and Canada. Regular features of the publication include: a shop clinic, case histories of sewing room applications, trade association activities, and articles on present day concepts in production sewing techniques.

At **Sun Chemical Corp.,** newly named advertising manager, chemicals group, is John J. Watson who will be responsible for advertising programs of the divisions and subsidiaries in Sun's chemicals group, among which are the Warwick Chemical Division (textile and industrial chemicals). Mr. Watson was formerly

# Selecting a source for soda ash?

*HINT: CHECK THE REPUTATION FOR SERVICE*

...then call Wyandotte

For pure, uniform soda ash, quality controlled every step of the way—select *Wyandotte Soda Ash*. It's available in several grades, and every grade tests 58% sodium oxide—or better!

Use Wyandotte Soda Ash for kier boiling or scouring, as a water-softening agent, emulsifier, casein solvent, or for alkalinity control of wool, cotton and the synthetics.

Our expert staff is available to show you how to best apply Wyandotte Soda Ash to save you time and increase your production efficiency. And you get prompt on-schedule delivery, too, thanks to strategically located plants and distributor stocks. Call our nearest office for full data, or write: *Section TI, Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

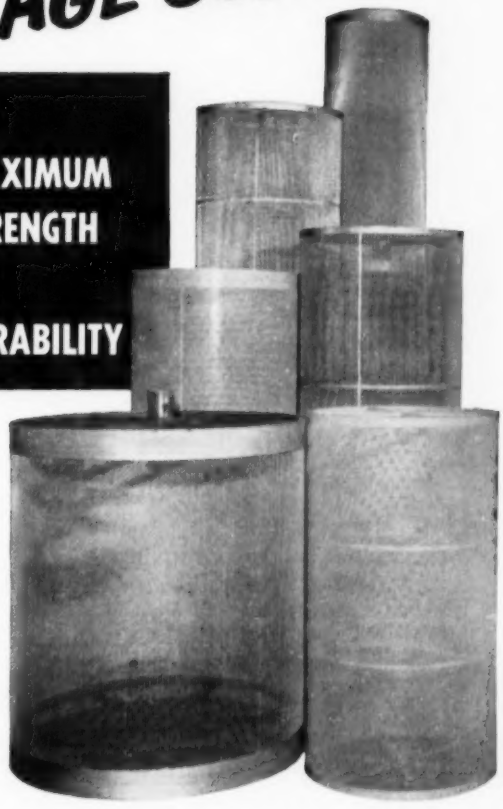
**Wyandotte CHEMICALS**

MICHIGAN ALKALI DIVISION

**Gastonia**

# Precision-built CAGE SCREENS

**for MAXIMUM STRENGTH and DURABILITY**



GASTONIA Picker, Condenser, Waste Machine and Vacuum Screens are precision-built to give you more production at lower cost!

The combination of special machinery and our exclusive welding techniques produce perfectly-formed screens having maximum strength and durability.

GASTONIA Screens operate smoothly and efficiently . . . and stand up under long, hard use.

For Screens of any type . . . perforated, American wire, English wire . . . for any purpose . . . manufactured, repaired or rebuilt, call GASTONIA.

Years of skilled practical experience are precision-built into all GASTONIA products.

**Gastonia** TEXTILE SHEET METAL WORKS

Gastonia, North Carolina

*A sheet metal works serving textile mills*

- Condenser screens
- Picker screens
- Waste Machine screens
- Card screens
- Cylinders
- Comber aspirators and dampers

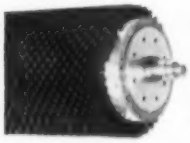
**COMBER RENEEDLING**

Expert reneedling of combs for cottons, worsteds and synthetics.

# YEARS
## OF SATISFACTORY MILL SERVICE WITH JENKINS' METLKOR BRUSHES

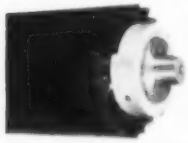
BRVM Motorized HERMAS Model Vertical Brushing Machine

"The high quality standards set by our engineering department for brushes used in our machines are amply covered by Jenkins' METLKOR Brushes. They have stood years of satisfactory mill service for our customers and, of course, for us," stated Mr. Robert Simpson, Sales Representative of Hermas Division, Curtis and Marble Machine Company. Hermas has proven the efficiency of Jenkins' METLKORS — the long lasting brush that can be rebristled. If you have any standard or special brush problems, write us today.



METLKOR brush used in Hermas Brushing Machine: precision made, accurately balanced. Filled with efficient long life Dupont "Tynex" Nylon. Available in fibre, hog bristle, etc.

METLKOR brush used in Hermas Shearing Machine: tufted construction, ruggedly built, refillable when worn. Available in fibre, hog bristle, Dupont "Tynex" Nylon, etc.



METLKOR brush used in Hermas Beaming, Measuring and Brushing Machine: light weight, for long trouble free life. Available in fibre, hog bristle, Dupont "Tynex" Nylon, etc.

Specify Jenkins' METLKOR
the original . . . the best *Metal Core* brush

METLKOR®
CYLINDER BRUSHES
and LIFEWOOD® WOOD BACKED BRUSHES

M. W. JENKINS' SONS, INC.
— Serving Industry for 80 Years —
532 Pompton Ave., Cedar Grove
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## SUPPLIERS *News* — WHAT THEY ARE DOING

assistant to the advertising director * * * William J. Leyden has joined the Warwick Chemical Division as technical service representative in the Midwest and Southwest for the firm's complete line of stearates and industrial chemicals.

Formation of Allis-Chalmers International as a major operating division of **Allis-Chalmers Manufacturing Co.** has been announced. The new division will be responsible for all manufacturing, engineering, and sales operations and activities outside of the U. S. and Canada. * * * Donald Sibley and T. T. Thorne, Jr., have been assigned as sales representatives to the Charlotte and Washington, D. C., offices, respectively, of the industries group.

Work is under way on a new distributing center in Framingham, Mass., for **Becco Chemical Division** of Food Machinery and Chemical Corp., to provide greater storage and filling capacity and to be located more conveniently for receiving and dispatching shipments to the textile finishing plants and other industrial plants in New England. Philip D. Caine, New England manager for Becco, is in charge of the new center. * * * Frank A. Kraft has been transferred from the Mid-West territory to the New York-Philadelphia area, as a sales representative for the division.

**Acoustica Associates, Inc.,** announce their move from Glenwood Landing, L. I., N. Y., to new and larger quarters at 26 Windsor Avenue, Mineola, L. I. * * * Ralph Reynolds, formerly technical sales manager, has been appointed general sales manager.

"Because of the increasing need for encouraging students to prepare for careers in the textile field," **Alliance Color & Chemical Co.** of Newark, N. J., and **Blackman-Uhler Co.** of Spartanburg, S. C., have increased the number of scholarships from five to seven. During the past year scholarships were established at Alabama Polytechnic Institute and Bradford Durfee Technical Institute. These scholarships, which are awarded to outstanding students on the basis of aptitude, need, and character, are in the amount of $500 each.

Completion of an expansion program doubling the capacity of its Brunswick, Ga., mercury cell chlorine-caustic soda plant, has been announced by the **Solvay Process Division,** Allied Chemical & Dye Corp.

**Stellamcor, Inc.,** formerly Stellite American Corp., has been appointed sole agent for the United States and Canada for Antex, manufacturers of the Speedotex measuring machine, a multipurpose stroboscopic instrument for measuring the speed of yarn in textile machinery and for measuring the speed of revolution of spindles, gears, shafts, etc.

At **American Cyanamid Co.** Dr. William H. Bowman has been appointed general manager and Neil B. Conley replaces him as assistant general manager of the organic chemicals division which operates ten of Cyanamid's more than 40 plants, including the petrochemical facilities near New Orleans, La. Mr. Conley was formerly director of sales and manager of commercial operations for

**Mr. Kraft**
*Becco Chemical*

**Mr. Morrow**
*American Cyanamid*

the division. * * * Charles W. Rice, Jr., formerly an account executive with J. Walter Thompson Co., has been named advertising and promotion manager for American Cyanamid's Creslan acrylic fiber. * * * Retiring from the firm after 22 years of service is Herbert S. Morrow, veteran executive and in recent years a consultant to the fibers and organic chemicals divisions.

Named branch manager of the Boston branch office of **American Air Filter Co.** is W. N. Murray, succeeding Robert E. Reid, who has been appointed a special sales engineer for the firm, working out of the Boston office. In addition to his new duties, Mr. Murray continues as supervisory sales engineer for AAF's Herman Nelson Unit Ventilator products for the New England states region. * * * Kirk Cousart and Associates have opened an office in Greensboro, N. C., as representatives for AAF's air filter, dust control, and engine and compressor products. W. S. Mitchell

**for superior finishes...**
*complete removal of size is a first essential*

# RAPIDASE®

UNEQUALLED FOR DE-SIZING AT HIGHEST TEMPERATURES AND AT HIGHEST SPEEDS

In concentrations to meet every requirement ... in liquid or powder form ... RAPIDASE is universally used for cottons and all fabrics containing man-made fibres.

WALLERSTEIN COMPANY, INC., 180 Madison Avenue, New York 16, N. Y.

# Avondale Yarns

Sold through Comer-Avondale Mills, Inc. Headquarters: Sylacauga, Alabama

PRODUCERS OF QUALITY COMBED AND CARDED COTTON KNITTING YARNS

**AVOID**

SPINNING ROOM DISRUPTION!

There are many, many reasons and causes for machine failure presenting the costly problem of "Down-time". Some of these every day problems are unforeseen - - - BUT

the foresight of . . .
ANDERSON SHIELDS
will reduce . . .
CHIPPING — SPLITTING
BREAKING
of your . . .
SPOOLS AND BOBBINS

**TEXTILE SHIELD CO., INC.**
LAWRENCE MASS., U. S. A.

THE NEW

5 POUND

FLETCHER

MASTER DUPLEX DOUBLER-TWISTER THREE STYLE PACKAGES

STRAIGHT

BOTTLE

9"

DOUBLE-TAPER

6"

**THE FLETCHER WORKS INC.**
2nd & GLENWOOD AVE.
PHILADELPHIA 40, PA.

## SUPPLIERS News — WHAT THEY ARE DOING

has been named manager of the new office located in the Waynick Building, 1882 Pembroke Road.

Creation of a textile market relations department by **Celanese Corp. of America** has been announced. Heading the new department is H. W. Vervoort, formerly in charge of cutter relations, assisted by V. H. Fazio who had directed converter relations. * * * In addition to his present duties, Murray D. Ewing has accepted the responsibility as assistant manager of the mill sales relations department, textile division, to assist in liaison work with the woven fabric sales, merchandising and development departments of textile mills' New York offices and selling agencies.

**The Chemstrand Corp.** has moved its district sales office for Acrilan acrylic fiber and Chemstrand nylon at Dedham, Mass., to a new location at nearby Needham Heights, Mass. R. H. Hale, with the firm since 1953, is manager of the new office located at 197 First Avenue.

At **Corn Products Sales Co.,** Robert W. Bond has been named manager of the sales service department with headquarters in New York. Formerly manager of the technical sales department at the Argo, Ill., plant, Mr. Bond in his new assignment heads a group of specialists who assist the firm's industrial customers in the application of company products to their operations.

Stockholders of **The Dobeckmun Co.,** manufacturers of metallic yarns, flexible packaging, and gift wraps, have approved merging the firm with **The Dow Chemical Co.**

Donald K. Ballman, general sales manager of **The Dow Chemical Co.** has been promoted to the position, director of sales, succeeding Donald Williams who recently was appointed director of corporate relations. William R. Dixon succeeds Mr. Ballman in a step-up from assistant general manager.

In recognition of his outstanding achievements in the industrial development of moistureproof cellophane and of various synthetic fibers, Dr. W. Hale Charch, director of pioneering research in the textile fibers research division of **E. I. du Pont de Nemours & Co., Inc.,** has been awarded Columbia University's Charles Frederick Chandler medal. * * * Appointment of Dr. Stanley R. Detrick, formerly sales manager of the chemicals and auxiliaries group of the dyes and chemicals division, to the newly created position of assistant director of sales for chemicals in the division has been announced. Gordon M. Markle continues as the division's assistant director of sales for dyes.

**Geigy Dyestuffs,** division of Geigy Chemical Corporation, has announced the appointment of Herman L. Steen as sales manager for that division, with headquarters in Ardsley, New York. Mr. Steen is succeeded as branch manager in Philadelphia by F. W. Allendorf.

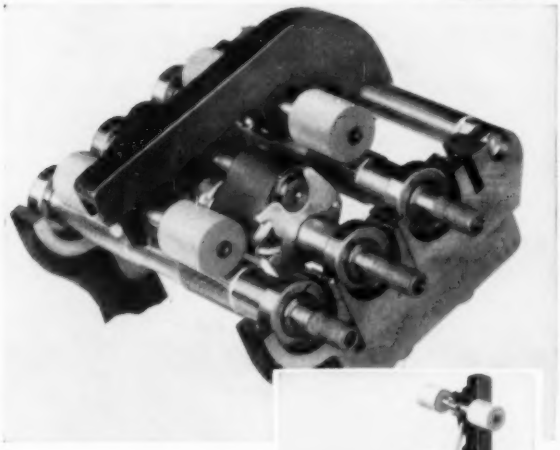
Harold G. Shelton, recently appointed director of marketing for the dyestuff and chemical division of **General Aniline & Film Corp.,** has announced the appointment of two executives to his staff. James M. Cloney succeeds Mr. Shelton as sales manager of Antara chemicals and John T. Robinson has been named to the newly created position of director-sales administration for the dyestuff and chemical division.

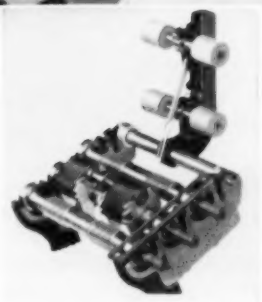
Newly appointed sales representatives for **General Latex and Chemical Corp.** in the New England territory are Ted E. Lannefeld, formerly associated with Heavatex Corp. in technical sales, and John B. Baker who for the past several years represented Abrasive Products, Inc.

The appointment of R. Bruce Kenworthy as administrative assistant for sales for **Hartford Rayon Co.** has been announced. Wesley L. Prince, Jr., who formerly held this post, has received a new assignment as northern district sales representative. Mr. Kenworthy had been associated with J. L. Stifel & Sons and the Bauer & Black Division of The Kendall Co.

**The Hobbs Manufacturing Co.** is now manufacturing the Hobbs-Alquist line of winders in the Worcester, Mass., plant. Formerly, the machines were imported from Germany. * * * The firm announces that in the future it will not be necessary for a customer to shop around for winding equipment, buying winders here and stands there in the hope of assembling an installation whose elements are reasonably compatible. Equipment now available from Hobbs includes winders, a-c and d-c winding

# DOES YOUR ANTI-FRICTION SPINNING HAVE THESE EXCLUSIVE FEATURES? *nyaf*





New, proven *nyaf*® out-produces any anti-friction spinning yet developed! Swing saddle center suspension, full anti-friction top and bottom spinning roll assembly . . . drafts of 10 to 60!

Here is anti-friction spinning operating at its very peak of efficiency—without parallel in bringing new economy, new dependability, and new ruggedness to your spinning. **And *nyaf*® can be adapted to any manufacturer's frame.**

Roller Stand 30°, 45°, or 60°. Straight line from trumpet to thread guide. Sealed ball bearing fluted rolls. Runout not to exceed .003". All diameters .0015". No more lubrication problems and worn roller necks. All head end gearing anti-friction with silent chain drive. Cylinders and idlers anti-friction.

**Does your anti-friction have these *nyaf*® exclusive features?** Center-suspension, with rugged center support. Induction hardened rolls, with ball bearings lubricated and double sealed for life. Positive dead weight. Front and middle rolls, with back rolls spring weighted. Front and back rolls easily dismounted for cleaning and buffing. No end play in center support. Fine adjustment of cradle to 5/1000". Cannot get out of line. One adjustment, versus 12 as on old type frame. Rugged construction takes care of effective weighting up to 120 lbs. and over if necessary, at any roll speed desired. Assembly and erecting time one-half that of conventional methods. No oil, therefore less lint. Cleanest operating assembly available anywhere. Precision-engineered for perfect roll alignment at all times with fluted drafting rolls. *Patents pending.

**F. A. YOUNG MACHINE CO.**

GASTONIA NORTH CAROLINA

**FLUTED ROLLS FOR SPINNING • FLYER FRAMES**
**COMBERS • DRAWING & LAP MACHINES • NYAF**



# *Let* SHAMROCKS *help you*

**INCREASE TEXTILE PRODUCTION**

*Save time and money*

**No. 12 SHAMROCK DOFF BASKET**

Photo shows No. 12 leather reinforced Doff Baskets in use at a large Southern textile mill. Baskets are loaded with yarn that is being dumped into spooler.

Every hour you save with Shamrocks means another hour of production! That's why sturdy Shamrock Baskets . . . preferred in textile plants everywhere . . . pay for themselves many times through their long service life. The No. 12 Shamrock Doff Basket is "built to take the knocks", from its leather-reinforced canvas body to its smooth hardwood runners. Let a Shamrock representative survey your plant and recommend the right Shamrock styles for your particular needs! Manufactured by MEESE, INC., Madison, Indiana.

SALES OFFICES: NEW YORK—F. R. Tyroler, 55 West 42nd St., PE 6-0615; ATLANTA—W. E. Petway, 2577 East Densley Dr., North Decatur, Ga., ME 6-3192; FORT WORTH—V. M. Hooton, 4220 Normandy Road, Tel. Jefferson 6-6564; WEST COAST—Petersen-Daniels, Inc., 3311 Beverly Blvd., Montebello, Calif., RAymond 3-7003. Export Mgr.—R. A. Auerbach, Easton, Pa. Cable Address, "Natly."

**SHAMROCK**

**CANVAS BASKETS • HAMPERS • TRUCKS**

**DARY**
*Ring Travelers*

# OUR SPECIALTY!

Our specialty is making Dary ring travelers—an item well and favorably known to the textile trade for more than half a century. Though times change, we at Dary hold to one course without deviation. We continue to serve, by pursuing our specialty.

When you need ring travelers, call on our experience to aid your choice. Consult your friendly Dary representative!

Always specify
DARY Ring Travelers

**THE DARY RING TRAVELER CO.**
TAUNTON, MASSACHUSETTS
LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD "JACK" RHYMER, BOX 2261, GREENVILLE, S.C.

DARY PROCESSED

**For Warp Sizing**
of Synthetic Yarns

**use**

| | |
|---|---|
| VINAC* | Polyvinyl Acetate Emulsions (Full Range of Grades) |
| FLEXBOND | Copolymer Polyvinyl Acetate Emulsions |
| VINOL | Polyvinyl Alcohol (Full Range of Viscosities in Partially Acetylated and Fully Hydrolyzed Grades) |

**because**

these Colton chemicals have higher adhesion for synthetics than conventional materials and lower B. O. D.

*for loom finishes as well

*Technical Representation by*
MORETEX CHEMICAL PRODUCTS, INC.
Spartanburg, South Carolina

COLTON

**COLTON CHEMICAL COMPANY**
*A Division of Air Reduction Company, Inc.* • 1747 Chester Avenue, Cleveland 14, Ohio
Sales Offices and Warehouse Facilities Throughout U. S. • Export: Airco Co. International, New York 17, N. Y.

# STATIC

can be eliminated . . . safely, inexpensively. SIMCO makes a complete line of "Midget" static eliminators, including high efficiency static bars for warpers and creels, and special easy-to-clean bars for cards and garnetts. *All are guaranteed* to be effective! Write for facts.

**the SIMCO company**
920 Walnut St., Lansdale, Pa.


# CLASSIFIED ADS

BUSINESS—EMPLOYMENT—EQUIPMENT—PROFESSIONAL CARDS—OPPORTUNITIES


**Check Tensions**
in Yarns, Cords, Rubber
Quick Trigger Action
**SAXL TENSION METER**
Tensitron, Inc., Harvard, Mass.

**BOBBINS—BOBBINS—BOBBINS**

Our specialty is good used automatic loom bobbins. We also deal in twister and roving bobbins. Send us samples of what you need or what surplus bobbins you have.

CHARLES G. STOVER COMPANY
West Point, Georgia

**WANTED: NYLON YARN**

Raw and thrown, all sizes and types. Advise description and quantity. Also, rayon and cotton yarns.

RICHMOND CONVERTING COMPANY
P. O. BOX 111 — PAWTUCKET, R. I.

**POSITION WANTED**

ASSISTANT SUPERINTENDENT OF COTTON MILL, EXPERIENCED IN ALL PHASES OF COTTON MILL OPERATION, DESIRES POSITION AS COTTON MILL SUPERINTENDENT OR ASSISTANT SUPERINTENDENT IN SOUTHERN AREA. MARRIED, AGE THIRTY-FOUR. Reply to Box 17, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 8, Georgia.

**IMMEDIATE OPENING** for a graduate Textile Technologist with 2-5 years experience in textile application development. Position involves appraisal of market potential of new fibers by interpretation of laboratory data and evaluation at mill and consumer levels. Please send resume of education, experience, references and salary requirements to:

UNION CARBIDE CHEMICALS COMPANY
South Charleston 3, West Virginia
Attn. Mr. W. H. Billings, Jr.

**ELASTIC YARN**

We Stock for Continuous Supply—All sizes and constructions
Also Cotton—Rayon—Nylon Yarns
RICHMOND CONVERTING COMPANY
N. Y. OFFICE: 1261 Broadway, ORegon 9-2780
MILL & WAREHOUSE: Pawtucket, R. I., PAwtucket 5-2240

## SUPPLIERS News — WHAT THEY ARE DOING

and unwinding controls, together with feedback controls and synchronizing devices, etc.

Robert N. Apprich has retired as vice-president in charge of sales for **Textile Machine Works,** after 39 years of service. Mr. Apprich had been active in the accounting department, foundry, and machine shop, advancing to the posts of assistant sales manager and sales manager and vice-president in charge of sales.

E. J. Doucet, formerly advertising manager, has been advanced to director of advertising and public relations, **Vickers, Inc.,** a division of Sperry Rand Corp.

At the **Gates Rubber Co.** Mark T. Gilkison has been elevated from assistant manager of the industrial sales division to manager, filling the vacancy created by L. L. Carroll who has assumed sales duties for the firm on the West Coast.

**Gaston County Dyeing Machine Co.** announces the appointment of Albert P. March as sales engineer for the northeastern section of the U. S. Mr. March who was formerly associated with Smith, Drum & Co., may be contacted at Whitemarsh, Pa., or by

Mr. Newcomb

Mr. March

telephone at Adams 3-3580, Philadelphia. Walter J. Newcomb who has been named sales engineer to head the cloth dyeing machinery division, with headquarters in Stanley, N. C., was previously sales manager of Burlington Engineering Co.

A sales office in Jacksonville, Fla., has been opened by the **"Automatic" Sprinkler Corp.** of America. Located in the Ames Building at 2721 Park Street, the office is headed by R. A. Sheffield.

**James Talcott, Inc.,** has announced the formation of a new retail department within its factoring division to service clients in the textile and other industries selling directly to retail, department, specialty, chain, and mail order customers. Thomas J. McGann, assistant vice-president, heads the new department.

**Venango Engineering Co.** has named Macon Machine Shop, 2008 Centennial Ave., High Point, N. C., as southern representative to sell and service Venango rotary dyeing machines, package and rawstock dyeing machines, and equipment.

Percy I. Payne Jr. has been appointed as representative for **Meinhard & Co., Inc.,** in N. C., S. C., and Va., with headquarters in High Point, N. C. Mr. Payne was formerly associated with Crompton-Richmond Co.

V. Paul Riordan has joined the textile fibers department, **Union Carbide Chemicals Co.,** division of Union Carbide Corp., as a technical representative on Dynel textile fiber. Mr. Riordan was formerly with Hallowell, Jones & Donald. His headquarters will be at the New York City office, 100 E. 42nd St.


# Textile Industries'

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. . . . . will be on your desk by Mid-November. This practical, down-to-earth compilation of reference information will help you find what you want easily and quickly.

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# Polymer PRODUCTS

**YARN PREPARATION**
**Nylon Size** (Polyacrilic Acid TS-201†
**Dacron Size** (Polyfilm D)
**Loom Finish Size** (Polyfilm L)
**Fugitive Tints** (Rinse Free Colors)
**Softeners, Waxes, Lubricants, Plasticizers, Gelatines, Penetrants, Soluble Crayons**

**PRINTING-ROLLER and SCREEN**
**GUMS and THICKENERS**
Water Soluble (Polygum 220, 221, 230, 1560)
Prepared Type (Polyprint 500, RI, SM)
Cook-up Type (Polyprint 46, 124)

**FINISHING**
**SOFTENERS**
Cations (Polysoftener 200M, 210, 220, 800, 1231, 1293)
Anions (Polysoftener 75, 346, 1525)
Non-ionic (Polysoftener 50, 100, 414)

**PLASTICIZERS**
(Polyflex 120, 910, CR)

**RESINS**
Water Soluble (Polybond 20, 60, 90, BF)
Thermo Plastic (Polyvin Series)
Thermo Setting (Modified Urea Formaldehyde)

**WATER REPELLANTS**
(Polyropel GNP, WT, CB)

**PIGMENT COLORS***
**Imprint: Resinated** Concentrates for Water System Printing
**Impad:** Concentrates for Pad Dyeing.
**Imperse:** Non-ionic and Anionic Aqueous Dispersions.

**PIGMENT BINDERS**
Binder Concentrate 1559

**GENERAL BINDER CONCENTRATE 1559**
**PENETRANTS, DETERGENTS, DEFOAMERS, THICKENERS, WETTING, AND REWETTING AGENTS**

†Sole agents to textile industry for B. F. Goodrich Chemical Co., mfrs.
*Sole agents to textile industry for Imperial Paper & Color Co., mfrs.

**Polymer INDUSTRIES**
SPRINGDALE, CONN.
**Polymer SOUTHERN**
GREENVILLE, SOUTH CAROLINA

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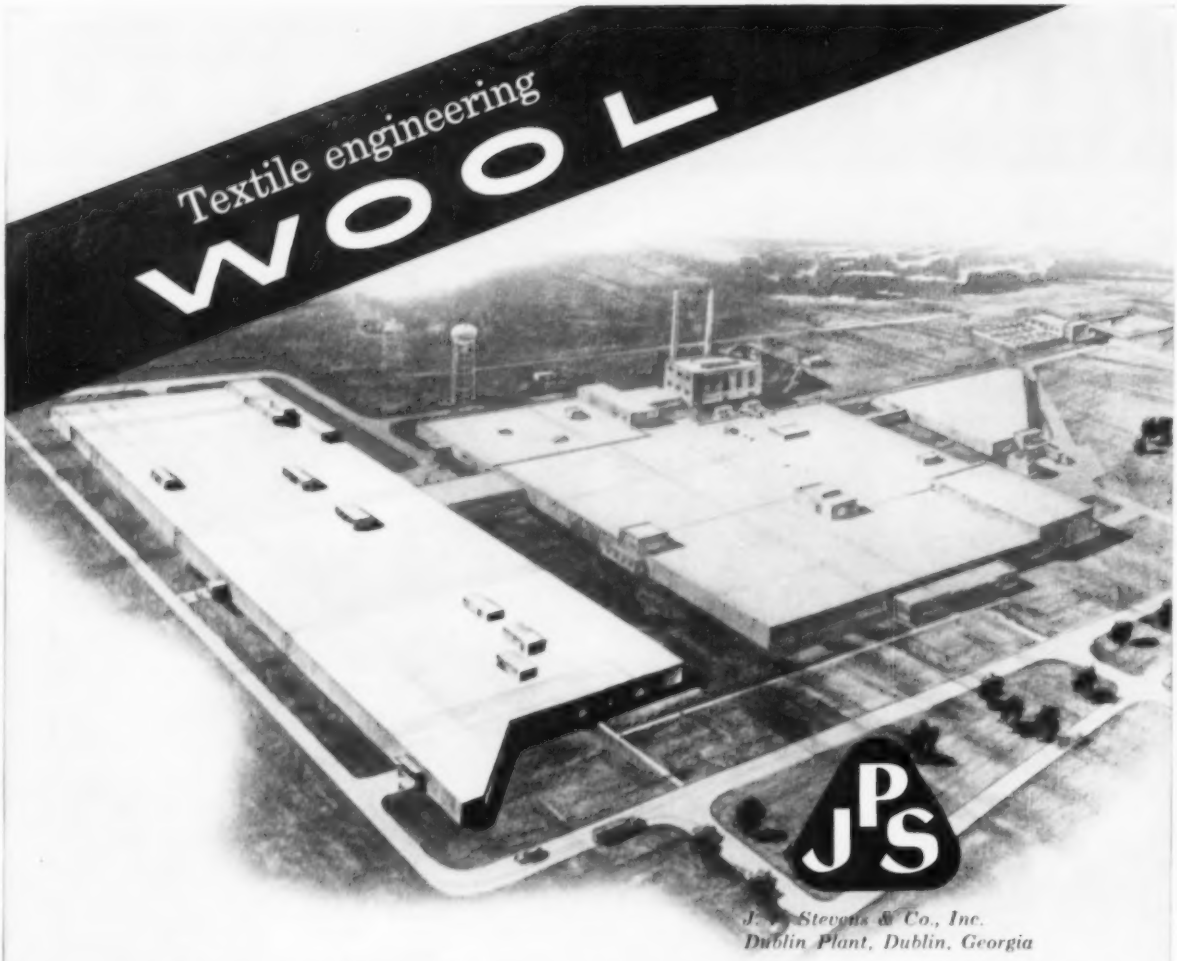


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